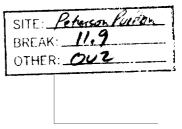
Sequa Corporation



Three University Plaza Hackensack, New Jersey 07601 201 343-1122 FAX: 201-488-2014 Leonard P. Pasculli Director, Environmental Law November 2, 2000

U.S. Environmental Protection Agency David J. Newton, RPM New Hampshire and Rhode Island Superfund Section Office of Site Remediation & Restoration 1 Congress Street, Suite 1100, Mail Code: HBO Boston, MA 02114-2023



Re: Request for Information Pursuant to Section 104 of CERCLA for Peterson/Puritan, Inc. Superfund Site, Operable Unit 2, which includes the J. M. Mills Landfill, Cumberland, RI

Dear Mr. Newton:

Sequa Corporation hereby responds to EPA's Request for Information in the above captioned matter dated August 24, 2000, and received September 6, 2000. This response is timely submitted, since the EPA granted us an extension until November 3, 2000, to respond (see attached letter from me to attorney Michelle Cutler-Jones dated September 22, 2000).

Although the EPA's Request for Information was addressed to Sun Chemical Corporation, Sequa Corporation (f/k/a Sun Chemical Corporation) is the appropriate Respondent, as explained in the enclosed 9/22/2000 letter as well as in the enclosed response to the RFI.

For the reasons stated in the enclosed response, Respondent cannot be a responsible party at this Site, on the ground that all of the waste picked up at the Respondent's plant and disposed of at the Site was <u>non-hazardous</u> office and plant trash. Respondent provides with the attached response a documented independent laboratory analysis supporting its position. A party cannot be liable under CERCLA for the disposal of non-hazardous substances.

Respondent provides the enclosed response to the best of its knowledge, available information, and belief at this time, and it understands that it has a continuing obligation to provide responsive information discovered after the date this response is submitted to the EPA. Accordingly, if you have any additional information that may assist Respondent in its continuing investigation in this matter, or if you have any questions, you may contact me at 201-343-1122 ext. 2375.

very truly

Leonard P. Pasculli

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Sequa Corporation's Response Dated November 2. 20003: to EPA's OUL Request for Information ("RFI") Dated August 24, 2000

Peterson/Puritan, Inc. Superfund Site, Operable Unit 2, which includes the J. M. Mills Landfill, Cumberland, Rhode Island (the "Site")

PRELIMINARY STATEMENT

EPA addressed its RFI separately to "General Printing Ink Division (Sun Chemical Corporation)" and to "Sun Chemical Corporation", both at 320 Forbes Blvd., Mansfield, MA. During the Period Being Investigated (defined as 1954 through 1986), the company's legal name, and the owner of the property located at 320 Forbes Blvd., Mansfield, MA (*i.e.*, "The Mansfield Plant"), was Sun Chemical Corporation. General Printing Ink (or "GPI") was an unincorporated division of Sun Chemical Corporation. Therefore, it is sufficient to name only Sun Chemical Corporation, and not GPI, as the owner and operator of The Mansfield Plant during the Period Being Investigated.

Furthermore, in December 1986, Sun/DIC Acquisition Corporation acquired the assets of Sun Chemical Corporation's Graphic Arts Business, which consisted of the General Printing Ink Division and the Colors Group. After the Seller changed its name from Sun Chemical Corporation to Sequa Corporation, the Buyer, Sun/DIC, changed its name to Sun Chemical Corporation. The Seller (Sequa Corporation) retained the liabilities for the pre-Closing operations of the Graphic Arts Business. Thus, the corporate entity responsible for the operations of Sun Chemical Corporation's Graphic Arts Business during the Period Being Investigated – and therefore the Respondent in this matter – is **Sequa Corporation (f/k/a Sun Chemical Corporation)**.

GENERAL OBJECTIONS

- A. Respondent objects to certain of the Definitions, Instructions and/or Requests to the extent that they attempt to impose upon Respondent obligations that go beyond the scope of EPA's authority under Section 104 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. 9601 et seq.) ("CERCLA") (for example, the requirement that Respondent submit a declaration).
- B. Respondent objects to certain of the Definitions, Instructions and/or Requests to the extent that they seek information from all current and former employees because as such they are overbroad and unduly burdensome, they invade those individuals' right to privacy and violate the work product privilege, and because they seek information from persons who are not part of Respondent's decision-making personnel and/or over whom Respondent may have no control or current relationship.

- C. Respondent objects to the Definition of "you" or "Respondent" to the extent that the Request seeks information about Respondent facilities that had no relationship to the Site or information from persons who are not part of Respondent's decision-making personnel and/or over whom Respondent may have no control or current relationship.
- D. Respondent objects to the Definition of "identify" with respect to a natural person to the extent that it requests a person's home address or telephone number or present employer or social security number. The Definition as such is overbroad, burdensome, irrelevant and unnecessarily invades personal privacy.
- E. Respondent objects to the Definition of "document" to the extent that it attempts to compel Respondent to identify and produce documents that may not be within Respondent's possession or control.
- F. Respondent objects to the extent that the RFI in general as well as several individual Requests are: (1) vague, confusing and redundant; (2) overbroad and irrelevant (*for example*, Request # 1.d., l. and m. ask for information about Respondent's facilities that have no connection with the Site); (3) burdensome and irrelevant (*for example*, Request # 2 in the Generator Section asks for physical state, tradename/chemical composition, volume and disposal method for every waste disposed of from all Respondent locations over a 32 year period); and (4) beyond the scope of EPA's authority under Section 104(e) of CERCLA (*for example*, requests for information not related to the hazardous substances which are alleged to have been released at the Site).
- G. Respondent objects to the Instruction which reads: "While the Respondent may indicate that it objects to certain questions in the Information Request, it must provide responsive information notwithstanding those objections. To object without providing responsive information may subject Respondent to the penalties set out in the cover letter."

Subject to and without waiving the foregoing General Objections, Respondent states that due to the passage of time and the correlative attrition of individuals who may have relevant information or documents, responsive information may be impossible or difficult to obtain. Therefore, Respondent provides the following information and responses to the best of its knowledge, available information, and belief at this time, and it understands that it has a continuing obligation to provide responsive information discovered after the date this response is submitted to the EPA:

RESPONSES TO SPECIFIC INFORMATION REQUEST QUESTIONS:

GENERAL INFORMATION ABOUT RESPONDENT: Sequa Corporation was incorporated (as Sun Chemical Corporation) in Delaware in 1929. A copy of Sequa Corporation's 1999 Annual Report to Shareholders is enclosed as *Attachment A*. A description of the Graphic Arts Business as it existed just prior to the 1986 sale is enclosed as *Attachment B*. Additional information about the current operations can be found on the

World Wide Web: for Sequa Corporation, see www.sequa.com; for Sun Chemical Corporation (i.e., "new" Sun or post-1986 Sun), see www.sunchemical.com.

The General Printing Ink Division of Sun Chemical Corporation is (and was during the Period Being Investigated) generally in the business of manufacturing commercial printing ink for the graphic arts industry. Sun Chemical Corporation purchased The Mansfield Plant property in 1971 and operations began there in 1972. Specifically, The Mansfield Plant produces (and produced from 1972 through the end of the Period Being Investigated) news ink, paste ink and flexographic ink used by commercial publications and packaging firms. The Mansfield Plant's SIC number is 2893 and its EPA ID number is MAD001402270.

- Sequa Corporation (f/k/a Sun Chemical Corporation) 1. a. c/o 3 University Plaza Hackensack, NJ 07601
 - Leonard P. Pasculli, Esq. b. Director, Environmental Law Sequa Corporation 3 University Plaza Hackensack, NJ 07601 Tel: 201-343-1122

Fax: 201-488-2014

- See Response to Request Number 1.b. above. c.
- See General Objections. Without waiving its objection, Respondent states d. that during the Period Being Investigated it owned and operated no facilities within 125 miles of the Site other than The Mansfield Plant and the GPI facility in Norwood, Massachusetts from which the operations were relocated to The Mansfield Plant in 1972.
- Subject to the General Objections, see Response to Request Number 1.d. and e. General Information About Respondent above.
- See Response to Request Number 1.e. above. f.-h.
- See General Objections. Without waiving its objection, and to the best of Respondent's knowledge, information and belief, Respondent has no "surveys" or "studies" about its waste handling practices that it submitted to local, state, federal or private entities. Respondent has limited "data" from the Period Being Investigated which is not being provided since it is not relevant to the Site, such as records about hazardous waste shipped from The Mansfield Plant to disposal sites other than the Site. Respondent is providing a copy of The Mansfield Plant's 1981 Hazardous Waste Management Manual (see Attachment C).
- j.-k. See Response to Request Number 1.i. above.
- See General Objections. l.-m.
- 2. Subject to the General Objections, see Attachment A. a.-d.
 - Not applicable. e.

- f. Subject to the General Objections, see Preliminary Statement, General Information About Respondent and *Attachment A*.
- g.-h. Not applicable.
- i-j. Subject to the General Objections, see Preliminary Statement, *Attachments A* and B, and General Information About Respondent above.
- k. Not applicable.
- 1. Subject to the General Objections, see Preliminary Statement, *Attachments A* and B, and General Information About Respondent above.
- m.-n. Not applicable.
- (a.-c.) Respondent has no information or knowledge about others who may have information concerning the operation of the Site or the materials disposed of at the Site, other than that which is included in the information and documents provided herewith. There are no current employees of Sequa Corporation with knowledge and information about the waste handling practices at The Mansfield Plant during the Period Being Investigated. Sequa Corporation did retain copies of documents relevant to Sun's pre-1987 waste handling practices, which documents are in the custody of Leonard Pasculli. The names of the employees at The Mansfield Plant during the Period Being Investigated whose names appear on the attached documents and others who may have additional responsive information about The Mansfield Plant include: Gary Andrzejewski, Grant Bush, David Condon, Louis Gaspari, William Gendreau, Michael Metcalf, Carl Raycroft, Robert Vachon, Michael Zachara. Respondent does not know if or in what capacity these individuals are currently employed by Sun Chemical Corporation. Finally, EPA or current or former employees of Cal's Enterprises, Inc., or its successors-in-interest may have relevant information about the disposal of The Mansfield Plant's non-hazardous plant and office trash.
- 4. See Response to Request Number 3 above.

GENERATOR SECTION:

1. Respondent's Operations:

- a.-b. Subject to the General Objections, see Response to Request Number 1.d. and General Information About Respondent above.
- c. Subject to the General Objections, see Preliminary Statement, Response to Request Number 2 and General Information About Respondent above.
- d. Subject to the General Objections, see General Information About Respondent above.
- e.-f. See General Objections. Without waiving its objection, Material Safety Data Sheets for materials used by The Mansfield Plant for the Period Being Investigated are not available to Respondent.
- g. See General Objections. Without waiving its objection, Respondent responds that equipment and machinery at The Mansfield Plant may have been cleaned during the Period Being Investigated with a solution of ethanol, mineral spirits and butyl "carbitol."

h.-i. See General Objections. Without waiving its objection, see *Attachment C*.

2. (a.-e.) Respondent's Waste and Waste Streams:

"Waste Survey"

Respondent objects to this Request as vague, overbroad, burdensome, and irrelevant, to the extent that it requests information about Respondent's waste handling practices that have no connection with the Site. In lieu of EPA's Information Request Waste Survey, and without waiving its objection, Respondent responds as follows:

Waste streams that were, during the Period Being Investigated, generated by The Mansfield Plant and taken offsite for disposal (including incineration) or reclaiming include: liquid wastes (e.g., petroleum-based (flammable) inks, water-based (non-flammable) inks, spent oil, and caustic water and ink sludge); steel drums (i.e., sent to a drum reclaimer); and solid or bulk waste (e.g., paper, cardboard, spent packing materials, floor sweepings, empty fiber drums in which the plant received its raw materials, and other routine office and plant trash).

The liquid waste from The Mansfield Plant was disposed of offsite during the Period Being Investigated. It was manifested (beginning in 1980) and transported by various licensed haulers in vacuum trucks or 55 gallon drums. Based on available information, knowledge and belief, no liquid wastes from the Mansfield Plant were transported to or disposed of at the J.M. Mills Landfill, but rather, they were sent to the Solvent Recovery Services facility and the Environmental Waste Removal facility in Connecticut, the S&W Waste facility in New Jersey, the MacDonald & Watson Oil facility in Rhode Island, and the Cecos International facility in Ohio.

Steel drums were sent by The Mansfield Plant to reclaimers during the Period Being Investigated. These empty 55 gallon drums formerly contained raw materials purchased by The Mansfield Plant or liquid inks manufactured by The Mansfield Plant. The reclaimers cleaned and reconditioned the steel drums. Based on available information, knowledge and belief, the empty steel drums from The Mansfield Plant were never transported to or disposed of at the J. M. Mills Landfill, but rather, were sent to the M.M.Mansfield Barrel facility in Massachusetts, the New England Container facility in Rhode Island, and the Central Steel Drum facility in New Jersey.

From 1972 through the end of the Period Being Investigated, bulk solid waste from The Mansfield Plant was disposed of offsite. According to available records, The Mansfield Plant paid Cal's Enterprises Rubbish Removal Division to remove its solid waste beginning in or around January 1974 (see *Attachment D*) until the end of the Period Being Investigated. [According to available records, it appears that Cal's Enterprises changed its name to SCA Disposal Services of New England, Inc. – Cal's Division ("SCA") in or about October 1975 (see *Attachment G*).]

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As is about to be explained, Respondent contends that all waste picked up by SCA from The Mansfield Plant during the Period Being Investigated was non-hazardous office and plant trash. Respondent has documented independent laboratory analysis supporting its position. A party cannot be liable under CERCLA for the disposal of non-hazardous substances. If, assuming arguendo, that Respondent is responsible under CERCLA for the waste picked up by SCA, then its responsibility is limited only to the 28 loads picked up by SCA on 7/20/78, 9/5/78, and between 7/24/79 and 4/8/82 -- and only for the *de minimis* quantity of hazardous substances that may have been present in those loads. Furthermore, SCA may be responsible under CERCLA as a transporter of hazardous substances.

According to information provided by the EPA, the J. M. Mills Site was a privately owned landfill, used primarily for the disposal of mixed municipal and industrial non-hazardous rubbish and solid waste. SCA apparently used the Site for the disposal of the rubbish and bulk waste it was in the business of collecting. The Mansfield Plant segregated its non-hazardous office and plant trash in a 42 cubic yard rolloff container attached to a compactor supplied by SCA and situated on The Mansfield Plant premises. SCA picked up the container on a regular basis (*i.e.*, on average, about every 45 days). There was no change in the nature of the waste picked up and disposed of by SCA during the Period Being Investigated.

On August 11, 1982, SCA wrote to The Mansfield Plant with this inquiry: "The private sanitary landfill where we dispose of your loads of rubbish has expressed some concern about what is in your containers. Could you please send us a letter at your earliest convenience stating what is in the container and verifing [sic] that the contents are non-hazardous waste." The Mansfield Plant provided to SCA verification that the contents of the containers were non-hazardous based not only on an analysis performed by an independent laboratory, but also with a letter from the Commonwealth of Massachusetts Department of Environmental Quality. See *Attachment E*.

If the Agency does not entirely relieve Respondent from responsibility for costs incurred at the Site on the ground that Respondent never sent hazardous substances to the Site, then Respondent's responsibility should be only *de minimis*:

1974 through June 1979

At no time did The Mansfield Plant select the location where the non-hazardous trash SCA picked up was taken for disposal. Regarding the destination of the non-hazardous office and plant trash picked up by SCA, Respondent relies on those documents provided to Respondent by EPA in this matter coupled with available records in its possession:

6 0617-0039

¹SCA charged The Mansfield Plant a service charge of \$48 a week for the on-premises equipment. The service charge for each pickup of the 42-yard container was \$44 until May 1979, when the price was increased to \$50 per pickup.

Attachment F consists of copies of the documentation provided to Respondent by EPA pursuant to Respondent's FOIA Request, which documentation was received by Respondent on October 5, 2000.

Attachment G consists of copies of invoices from SCA for bulk waste pickups from The Mansfield Plant that correlate to the SCA Drivers Reports provided by EPA.

In a letter dated May 7, 1979, SCA notified The Mansfield Plant that "effective July 1, 1979, the Town of Mansfield will no longer accept rubbish from commercial and industrial accounts at their landfill." (See *Attachment H.*) Thereafter, The Mansfield Plant rubbish would be disposed of by SCA at a "private sanitary landfill" at a disposal cost of \$2.65 per yard. This notice letter from SCA to The Mansfield Plant coincides precisely (with the exception of two shipments) with the SCA drivers' reports provided by EPA to Respondent – that is, it is clear that although The Mansfield Plant used SCA before July 1979, SCA took The Mansfield Plant's trash to the Town of Mansfield landfill and did not take it to J.M. Mills until July 1979 (with only the two exceptions found in EPA's records – see below).

July 1979 through April 1982

According to EPA's records obtained from SCA/Cal's Enterprise, pickups from The Mansfield Plant from July 24, 1979 through April 8, 1982, were disposed of at the Site. (Note that Sequa's records identify three SCA pickups during that period that are not identified in EPA's records.) EPA's records indicate two pickups outside of that time period which appear to have gone to this Site. According to the driver's report, the pickups on July 20, 1978 and September 5, 1978 appear to have gone to the Site. Finally, note that on two occasions -- 7/20/78 and 4/8/82 -- the EPA's records have two entries when only one pickup and disposal took place.

Therefore, the following pickups appear to have been disposed of at the Site:

- 1. 7/20/78 (Only one pickup on this date.)
- 2. 9/5/78 (Respondent has no invoice for this pickup.)
- 3. 7/24/79
- 4. 8/23/79
- 5. 9/27/79
- 6. 11/1/79 (EPA's Carrier Survey incorrectly says 10/1/79; the Drivers Report says 11/1/79.)
- 7. 12/4/79
- 8. 1/8/80
- 9. 2/6/80

10. 3/12/80 (Although this pickup does not appear on EPA's Survey, EPA does have an underlying Drivers Report for this date.)

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² Although no SCA records in Respondent's possession so indicate, after receiving EPA's documents, Respondent now believes that "private sanitary landfill" to be J.M. Mills. The price remained \$2.65 until July 1983 when the price was increased to \$3 per yard (with several price increases after that). The \$2.65 price remained constant throughout the time that SCA disposed of The Mansfield Plant's trash at the J. M. Mills Landfill.

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11. 4/17/8012. 5/14/80
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- 12. 5/14/80 (EPA does not appear to have a record of this pickup.)
- 13. 7/31/80 (EPA does not appear to have a record of this pickup.)
- 14. 9/15/80 (Respondent has no invoice for this pickup.)
- 15. 10/17/80
- 16. 11/12/80
- 17. 12/15/80
- 18. 1/26/81
- 19. 3/6/81
- 20. 4/15/81
- 21. 6/2/81
- 22. 7/15/81
- 23. 9/10/81
- 24. 10/28/81
- 25. 12/11/81
- 26. 1/15/82 (EPA does not appear to have a record of this shipment.)
- 27. 2/22/82
- 28. 4/8/82 (Only one pickup on this date.)

28 loads times 42 cubic yards per load equals 1176 cubic yards.

June 1982 through June 1986

Based on the available records in Respondent's possession and on the records in EPA's possession, SCA ceased using the J. M. Mills Landfill for The Mansfield Plant's trash after the 4/8/82 shipment. The evidence that supports this conclusion is as follows:

- EPA has no records from SCA drivers after 4/8/82 indicating that The Mansfield Plant's trash was sent to J.M. Mills. (We presume that EPA does have driver reports after 4/8/82 which probably show that pickups by SCA from The Mansfield Plant were disposed of at sites other than the Site. Those records have not been provided to Respondent.)
- In June of 1982 there was a change in the district management of SCA Services, Inc., Cal's Division. Attachment I shows a Waste Removal and Disposal Agreement, affirming the contract arrangement between the companies (although there was no change in pricing), as well as an announcement introducing SCA's new district manager and its new billing procedure. SCA's letter inquiring about the non-hazardous content of The Mansfield Plant's trash (Attachment E) was also during this same time period, suggesting that the new private sanitary landfill SCA switched to was seeking verification that the trash SCA was bringing was indeed non-hazardous.
- Respondent has information that by 1986, SCA was hauling The Mansfield Plant's non-hazardous office and plant trash to North Attleboro Landfill, a landfill much closer to The Mansfield Plant than the J. M. Mills Landfill in Cumberland, Rhode Island.

By all indications, it appears that SCA's new District Manager made some changes in mid-1982, including a change in the destination of The Mansfield Plant's non-hazardous office and plant trash. SCA did not take The Mansfield Plant's trash to the J.M.Mills Landfill after the 4/8/82 pickup.

3. Respondent's Disposal/Treatment/Storage/Recycling/Sale Of Waste:

- a.-b. See Response to Request Number 3 under General Information About Respondent above.
- c. Subject to the General Objections, Respondent states that, among others, Leonard P. Pasculli, Esq., Director, Environmental Law is responsible for Respondent's environmental matters.
- d. See General Objections and the previous three responses.
- e.-i. See General Objections. Without waiving its objection, see Response to Request Number 2 of this Generator Section.
- j. The Mansfield Plant did not transport the wastes it generated.
- k.-t. See General Objections. Without waiving its objection, see Response to Request Number 2 of this Generator Section.
- u. At no time did The Mansfield Plant select the location where the non-hazardous office and plant trash SCA picked up was taken for disposal.
- v. See Response to Request Number 2 of this Generator Section.
- w.-y. See General Objections. Without waiving its objection, Respondent has no information about these activities during the Period Being Investigated.
- z. See Response to Request Number 2 of this Generator Section.

4. Respondent's Environmental Reporting

a.-g. See General Objections. Without waiving the objection, see Attachment J.

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Sequa Corporation

Three University Plaza Hackensack, New Jersey (1760) 201-343-1122 FAN 201-488-2014

Leonard P. Pasculli Director. Environmental Law



SITE: Peterson Puritan
BREAK: 11.9
OTHER: OUL

September 22, 2000

VIA FAX 617-918-1810 and Regular Mail

Michelle Cutler-Jones, Esq.
Enforcement Counsel
U.S. Environmental Protection Agency, Region 1
Office of Environmental Stewardship, Mail Code SES
1 Congress Street
Boston, MA 02114-2023

Re: Request for Information for Peterson/Puritan, Inc. Superfund Site Operable Unit 2, which includes the J. M. Mills Landfill, Cumberland, Rhode Island

Dear Ms. Cutler-Jones:

Confirming our telephone conversation of today, I represent Sequa Corporation; EPA's Request for Information in the above-mentioned matter dated August 24, 2000, has been forwarded to me for handling. Your Request for Information was sent to Sun Chemical Corporation's Mansfield, Massachusetts facility¹.

In December 1986, Sun Chemical Corporation sold its Graphic Arts Materials business to DIC Americas, Inc. The assets transferred included, among other things, the Mansfield, Massachusetts facility and the name "Sun Chemical Corporation." The assets and businesses that were not sold were retained by the Seller, which then changed its name to "Sequa Corporation." Under the December 1986 Asset Purchase Agreement with DIC, Sequa agreed to retain the liabilities for the pre-1987 operations at the Mansfield, Massachusetts facility. Therefore, Sequa Corporation is the rightful respondent to this Request for Information. You may direct all future correspondence to my attention at "Sequa Corporation (f/k/a Sun Chemical Corporation)."

To enable us to prepare a thorough reply to your Request for Information, you have agreed to grant us an extension until November 3, 2000.

¹ EPA actually sent two letters to the Mansfield, Massachusetts facility, one addressed to Sun Chemical Corporation and the other addressed to General Printing Ink. Be advised that General Printing Ink is a division of Sun Chemical Corporation so that the two entities to whom you addressed your two letters are actually one and the same.

To assist us in our investigation and response, and as we agreed today on the telephone, please send to my attention any and all documents and information that you rely on when identifying Sun Chemical Corporation's Mansfield, Massachusetts facility as a potentially responsible party in this matter. I understand that you may have waste shipment records and/or witness testimonial evidence linking the PRPs to this site.

As we also discussed, if EPA has any information in its possession that it does not deliver pursuant to this discretionary release, please describe the documents that you deny producing, cite the reasons that you believe justify your refusal to release that information, and notify me of whatever procedures would be appropriate, including but not limited to a formal request under the Freedom of Information Act, for me to pursue.

Thank you for your courtesy and cooperation in this matter. If you have any questions, please do not hesitate to contact me at 201-343-1122.

Very truly yours

eonard P. Pascull

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Attachment A



Contents

Financial Profile 1 Letter to Stockholders 2 The Sequa Companies 6 Sequa in Review 10 **Financial Contents** 18 48 Operations Directors and Officers 49 Corporate Information 50

Sequa Corporation is a diversified manufacturer with eight discrete business units organized around five operating segments — aerospace, propulsion, metal coating, specialty chemicals and other products.

Focused on operations with a strong technological component, Sequa holds positions of leadership in key industries and continues to extend its market reach through both internal and external growth strategies.

1.520

Cover

The 700 vanes that make up the forward compressor section of a military jet transport engine frame a technician at work in Chromalloy Gas Turbine's new facility in San Antonio, Texas.

Financial Profile

(Dollar amounts in thousands, except per share data)

For the year	the year 199		1999 1998*			1997
Sales	\$1	,699,529	\$1,	,802,393	\$1	,595,125
Operating income		94,459		105,463		84,707
Income before extraordinary charge		27,799		63,897		19,627
Per basic share	\$	2.48	\$	6.01	\$	1.66
Net income		22,067		63,897		19,627
Per basic share	\$	1.93	\$	6.01	\$	1.66
Dividends paid		2,064		2,173		3,051

^{*}Results for 1998 include gains on the divestiture of operations that increased after-tax income by \$35.2 million or \$3.43 per basic share.

At year-end

Shareholders' equity	\$ 668,897	\$ 665,452	\$ 594,394
Shareholders' equity per share	\$ 60.52	\$ 60.09	\$ 53.31
Number of employees	11,800	 11,050	11,000
Number of stockholders of record	3,200	3,400	3,650

ach year, we seek to summarize Sequa Corporation's experience over the preceding 12 months. Often we can point to a good year or an excellent one; occasionally, to a period of challenge or a year marked by unusual conditions. Last year incorporates all these categories.

For many of Sequa's operations, 1999 was a good year, and for some it was excellent. In these instances, operating performance improved; customer relationships were strengthened; and investments were made in people, plants, products and services that offer the promise of further advances to come.

For other operations, 1999 was both challenging and unusual. One of these units was confronted by the bankruptcy of its largest commercial customer, while two others faced downturns in the markets they serve. Though the results of these units declined, they maintained a clear focus on their long-term objectives, while dealing with near-term difficulties.

Review of 1999

Sales declined modestly to \$1.7 billion from \$1.8 billion in 1998, and operating income was \$94.5 million, compared with \$105.5 million a year ago. It should be noted that these comparisons reflect the absence of the domestic chemicals business, which was divested in late 1998 and which had added sales of \$74.0 million and operating income of \$3.1 million to 1998's results.

Income after tax, but before an extraordinary charge of \$5.7 million

or 55 cents per basic share resulting from the early retirement of debt, was \$27.8 million or \$2.48 per basic share in 1999. For 1998, net income of \$63.9 million or \$6.01 per basic share included gains on divestitures that increased final results by \$35.2 million or \$3.43 per basic share.

Results for 1999 also reflect a higher level of interest expense derived from two principal factors: increased borrowing to support the working capital requirements created by promising new growth initiatives at the gas turbine unit; and the issuance of \$500 million of ten-year 9% Senior Notes through a public offering in July. The addition of the new financing at the favorable interest rate available last summer enhances the fundamental strength of the company's capital structure. Moreover, with the retirement of existing long-term debt completed by the end of 1999, the temporary bulge in interest expense related to the new issue is behind us. The added working capital costs, however, will continue in 2000.

Chromalloy Gas Turbine

With 1999 sales of \$745.8 million and operating income of \$65.6 million, Chromalloy Gas Turbine is Sequa's largest operating unit and a major contributor to profits. A leading independent supplier of advanced repairs for commercial and military jet engine components, Chromalloy also produces new parts for the jet engine manufacturers. In 1999, Gas Turbine's performance improved in the aftermarket for component repairs,

Members of Sequa's Management Executive Committee combine industry-specific expertise with broad-based business experience.

Seated: Norman E. Alexander, chairman and chief executive officer (left), and John J. Quicke, president and chief operating officer.

Standing: Dr. Martin Weinstein, executive vice president, Chromalloy Gas Turbine Operations (left), and Stuart Z. Krinsly, senior executive vice president and general counsel.



a reflection of overall strength in demand and the unit's enhanced market position. By contrast, original equipment operations declined for the year, the result of order cancellations and stretch-outs by the jet engine makers. Results from military repair operations moved higher in 1999 largely due to the inception of a new long-term program to repair components for military aircraft engines. Early in 1999, the US Air Force awarded a \$10 billion multi-year contract to a consortium of companies that includes Chromalloy to transition operations at Kelly Air Force Base in Texas to the private sector.

Chromalloy's primary market is the worldwide "spares and repairs" portion of the commercial jet engine industry, where two principal developments of the 1990s have changed the nature of the business. First, a drive by airlines to manage their equipment assets more efficiently accelerated a trend toward the outsourcing of repair and maintenance functions. At the same time, the manufacturers of jet engines moved aggressively to further their position in the repair aftermarket. In response, Chromalloy focused its technical research effort on developing new, innovative solutions to airlines' parts requirements, advancing the technical limits of component repair and developing critical replacement parts approved by the Federal Aviation Administration. While broadening the range of engine services offered to the airline and overhaul industry, Chromalloy has designed value-added packages of component inventory management and is building private

electronic networks to facilitate customer service and manage engine maintenance.

Operations in Review

For ARC Propulsion, 1999 was a difficult year with mixed performance results. The highlight of 1999 was the receipt of a significant contract award to refurbish the post boost control system for the Minuteman III missile that will extend this military program. The low point of the year stemmed from the uncertainties created by the bankruptcy of Breed Technologies, ARC's largest customer for automotive airbag inflators. At year-end, ARC had pre-petition net trade receivables due from Breed of \$12.1 million, as well as receivables of \$9.5 million from BAG SpA, a 50 percent-owned joint venture with Breed. In addition, ARC's investment in BAG SpA totaled \$18.5 million at year-end. We continue to monitor the Breed situation closely and refer stockholders to the Management's Discussion and Analysis section of this report for additional information.

Precoat Metals, the nation's leading independent supplier of metal coating services, primarily for customers in the building products industry, generated higher sales for the year and posted a sharp increase in profits. The sales advance includes the replacement of business lost in mid-1998 when a major customer brought coating work in house that had previously been handled by Precoat, while the unit's profit improvement reflects the success of quality improvement initiatives and cost-

reduction programs, as well as the higher level of sales. Throughout the year, Precoat continued to strengthen its position as a supplier to the metal container industry and to diverse industrial markets and furthered the development of its Internet-based customer service applications.

Sequa's United Kingdom-based specialty chemicals supplier. Warwick International, maintained an upward performance trend in 1999, despite sustained currencyrelated pressures that tempered the extent of the advance. Demand for Warwick's signature product, the bleach booster TAED, was strong in 1999, as customers launched new detergent products in international markets. With the bulk of TAED sales generated outside the UK, Warwick confronted competitive pressure in the marketplace resulting from the persistent strength of the British Pound against other major currencies. The unfavorable currency effect was further magnified by the translation of results to US dollars.

During 1999, Warwick accelerated a broad-based effort to develop commercial applications for TAED outside the detergent industry, and by early 2000 added a South African pulp and paper processing customer to the list of TAED users. Warwick also continued to build on its network of specialty chemicals distribution businesses, completing the acquisition of a second distributor in France in February 2000. Lastly, construction began on an expansion of Warwick's plant in Wales that will enable the continuous manufacturing 1 --- nrequirent to TAED.

The combined results of the four businesses remaining in the other products segment were lower in 1999, due primarily to difficult market conditions affecting MEGTEC Systems and Sequa Can Machinery. The decline was most pronounced at MEGTEC, the largest operation in the segment and a supplier to the graphic arts industry. Despite improvement in non-graphic arts lines and the business added through two acquisitions —Thermo Wisconsin and the emission control operation of Wolverine Worldwide— MEGTEC generated lower sales and posted an operating loss for the year. While the operating environment remains difficult for this unit in early 2000, we are encouraged by the technological expertise resident at MEGTEC and by prospects for a new product, the Dual-Dry Omega dryer for offset printing, that will be introduced in May at a major graphic equipment show.

Sequa Can Machinery, the leading supplier of high speed equipment to form and decorate two-piece metal cans, serves a global market that has been in a three-year decline, with particular pressure in Asia and South America. Though sales and profits were lower for 1999, the overall effect of the market downturn was cushioned by Sequa Can's spare parts business. In addition, the unit continues to make progress in developing equipment suited to a variety of metal containers, including aerosol cans and other specialty products.

The last two businesses in the other products segment posted good results for 1999. Automotive products

supplier Casco Products continued to widen the range of its product offerings and furthered its position in international markets through the acquisition of Schoeller & Co. GmbH, a German producer of cigarette lighters and power outlets.

The Men's Apparel business unit built on the strong position in rental markets of its three tuxedo labels — After Six®, Oscar de la Renta® and Raffinati® — with the introduction of an extended line of formalwear accessories.

Update on People

At the December board meeting, directors elected Dr. Martin Weinstein to membership. Dr. Weinstein, who also advanced to executive vice president of Sequa, has been chairman and chief executive officer of Chromalloy Gas Turbine since it was established in 1987.

After a 35-year career with Sequa, Gerald S. Gutterman retired in 1999 as executive vice president, finance and administration. Jerry Gutterman served as Sequa's chief financial officer since 1975, a period of unprecedented challenge and remarkable change.

Sequa's new chief financial officer is Howard M. Leitner, who was elected a senior vice president in December 1999. Mr. Leitner joined the company from Chock Full o' Nuts Corporation, where he served most recently as chief financial officer.

Milestones — and More

While the world focused on the advent of a new millennium in 1999, Sequa observed a milestone of its

own. Seventy years ago in New York City, the predecessor to the company that has become Sequa Corporation was established, issued shares to the public and was listed on the New York Stock Exchange. We can be certain that in March 1929 the company's founders could not have envisioned the changes in store for their fledgling operation.

Today, technology has accelerated the rate of change; it has enabled an unprecedented flow of information and created entirely new knowledge disciplines. Throughout Sequa Corporation, we've made important progress in leveraging our knowledge base and fostering performanceenhancing programs. For example, through the Six Sigma initiative launched a year ago, we are developing powerful new tools to streamline our business processes, improve our customer service, and increase the profitability of our operations. In a similar vein, we are building an e-commerce presence that will make it even easier for our customers to do business with us in the future.

Mormon & alexander

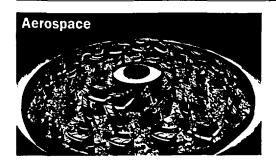
Norman E. Alexander Chairman and Chief Executive Officer

Ja J. Quike

John J. Quicke President and Chief Operating Officer

March 17, 2000

Business Units



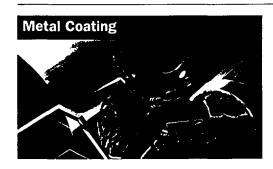
Sequa's largest business unit, Chromalloy Gas Turbine Corporation, is a leading independent provider of jet engine component repairs. Serving airline customers worldwide with advanced repair, remanufacture, coating and related metallurgical services, Chromalloy operates more than 20 major installations that incorporate state-of-the-art

equipment and processes dedicated to the jet engine component aftermarket. The unit also serves the military market and the heavy industrial turbine industry and operates original equipment manufacturing plants that produce new parts for commercial and military flight engines and industrial gas turbines.



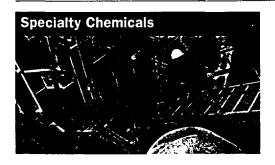
Atlantic Research Corporation (ARC Propulsion) manufactures propulsion systems for tactical and strategic weapons and satellites. With 50 years' experience in the propulsion industry, ARC ranks as the leading supplier of tactical rocket motors and gas generators for the latest generation of weapons systems. The unit also supplies liquid

fuel rocket engines and electric propulsion systems for space and satellite use and produces advanced composite materials for military and commercial applications requiring lightweight, high strength properties. For the automobile industry, ARC has adapted its propulsion expertise to the manufacture of automotive airbag inflators.



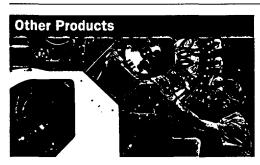
Precoat Metals is a leader in the application of protective and decorative coatings to continuous coiled steel and aluminum. The largest independent supplier in the North American coil

coating industry, Precoat operates nine lines at seven plants and has the capacity to coat more than a million tons of metal annually. The unit serves a diverse customer base of industrial customers.



Warwick International is one of the world's leading producers and distributors of TAED, a performance chemical that acts as a bleach activator to boost the cleaning power of laundry and dishwasher detergents. Household products containing TAED are sold primarily in international markets, though automatic dishwasher detergents incorporating

TAED have been introduced in North America, where they are steadily gaining consumer acceptance. In addition to manufacturing operations, Warwick has a network of distribution companies in Europe and South Africa that supply diverse specialty chemicals for a wide range of industrial applications.



MEGTEC Systems designs and manufactures air flotation dryers for printing and coating processes, air emission control systems for industrial applications, and auxiliary equipment for web offset printing.

Sequa Can Machinery designs and manufactures equipment to form the cup and body of two-piece cans and to coat and decorate the cans at high speed. The unit also supplies spare parts and upgrade kits and provides an extensive field service program.

Casco Products supplies the domestic and international automotive market with cigarette lighters, power outlets and electronic sensors for cars, vans, trucks and sports utility vehicles. Casco also supplies replacement lighters to the automotive aftermarket.

Men's Apparel, the nation's largest designer and manufacturer of men's formalwear, produces tuxedos and other evening attire under three leading labels: After Six*, Oscar de la Renta* and Raffinati*.

Chromalloy

Markets: Worldwide jet engine maintenance market; focus on "spares and repairs" portion of \$7.4 billion market; commercial customers include virtually every domestic and international airline.

Trends: Increased outsourcing by airlines of repair and maintenance functions; consolidation among overhaul and repair shops; shift toward maintenance cost-perhour agreements; projected increase in large engine shop visits, as the number of engines in service continues to grow.

Recent Developments: Military business boosted by government initiatives to privatize military projects; Chromalloy a part of the winning team to transition Kelly Air Force Base to private sector operation; proprietary advanced repairs and new parts gain acceptance among airline customers.

ARC Propulsion

Markets: US defense contract market; satellite and space exploration; global automotive airbag industry; military and commercial aircraft. Trends: Sustained activity on major military programs, including MLRS, Army TACMS, Sidewinder, Standard Missile, Tomahawk, Tactical Tomahawk, PAC-3, Trident D-5 and Javelin; added potential in automotive market through new dual-stage inflator products for driver- and passenger-side airbags, though bankruptcy of major customer (Breed Technologies) clouds near-term outlook.

Recent Developments: Receipt of a multi-year contract to refurbish the post boost control system for Minuteman III; selection of advanced dual stage hybrid inflators for front airbags on the model year 2001 Chrysler minivan; development of new applications for titanium matrix composites in commercial aircraft market.

Precoat Metals

Markets: Largest market is building products industry, where Precoat is a leader; unit is furthering its position in container industry and various markets for manufactured products, including heating, ventilating and air conditioning, truck trailer panels and office equipment.

Trends: Sustained high level of overall economic activity supports continued expansion of building products market; use of coated metal to replace traditional building materials in residential construction gains momentum, as esthetics improve and consumer acceptance rises; metal container industry to strengthen with recovery in Asian markets; use of

pre-painted metal gains position in manufactured products markets.

Recent Developments: Internal programs to improve quality and increase operating efficiency take hold, spurring profit growth; joint venture established to coat heavy gauge steel for structural components in building products market.

Specialty Chemicals

Markets: International detergent industry, pulp and paper conversion; textile fabrication. Distribution units serve diverse international markets for specialty chemicals, including plastics, inks, resins, pharmaceuticals, petrochemicals, personal care and ceramics.

Trends: Proven effectiveness, consumer acceptance and biocidal benefits of household products containing TAED bolster demand from international detergent market; growing recognition of advantages provided by TAED in industrial applications, notably in pulp and textile bleaching, offers added potential.

Recent Developments: Initial commercial pulp bleaching application of TAED moves into full production; traditional detergent applications gain ground in expanding markets of South America and the Far East; chemical distribution network grows to include businesses in France, Italy, Portugal, Spain and South Africa.

MEGTEC Systems

Markets/Trends: Downturn in North American graphic arts market reduces demand for dryers, auxiliary printing equipment; demand for emission control products continues to grow.

Recent Developments: Niche-filling acquisitions augment printing and air emission control product offerings. New offset printing product, the Dual-Dry Omega dryer, to be introduced in 2000.

Sequa Can Machinery

Markets/Trends: Economic downturn in export markets of Asia and South America depresses demand for can making/decorating machinery; supplier base consolidates; market turnaround will benefit this industry leader.

Recent Developments: Supply of spare parts and upgrade kits for large base of installed equipment cushions effect of downturn in new equipment markets.

Casco Products

Markets/Trends: Continued strength forecast for auto industry in North America and Europe; Casco benefits from increased demand, broadened product/ geographic scope; internal efficiencies/ acquisitions cushion effects of restrictive pricing in original equipment market. Recent Developments: Purchase of German automotive supplier furthers presence in European car markets; new facilities in US, Brazil broaden operating scope.

Men's Apparel

Markets/Trends: Economic/demographic trends favor sustained growth for formal-wear; innovative design features receive favorable response in rental market; increasing competition from imports.

Recent Developments: New formalwear accessories complement tuxedo lines; Internet/e-commerce initiatives offer expanded marketing opportunities.

Principal Locations

Chromalloy Gas Turbine

- ★ Headquarters San Antonio, Texas
- Alabama, Arizona, California, Connecticut, Florida, Georgia, Minnesota, Nevada, New York, Oklahoma, Pennsylvania, Texas; England, France, Israel, Mexico, The Netherlands, Singapore, Thailand

Joint Ventures: Japan; California, New York

ARC Propulsion

- ★ Headquarters Gainesville, Virginia
- Arkansas, California, New York, Tennessee, Virginia, West Virginia; United Kingdom Joint Venture: Italy

Precoat Metals

- ★ Headquarters St. Louis, Missouri
- Nine coating lines at seven plants in Illinois, Indiana, Mississippi, Missouri, Pennsylvania, Texas Joint Venture: Illinois

Warwick International

- ★ Headquarters/manufacturing/ technical development Mostyn, Wales
- Distribution France, Italy, Spain, Portugal, South Africa

MEGTEC Systems

- ★ Headquarters DePere, Wisconsin
- Wisconsin; France, Germany, Singapore, Sweden, United Kingdom

Sequa Can Machinery

- ★ Headquarters East Rutherford, New Jersey
- California, New Jersey, Ohio

Casco Products

- ★ Headquarters Bridgeport, Connecticut
- Connecticut, Kentucky; Brazil, Germany, Italy

Men's Apparel

- ★ Headquarters Hackensack, New Jersey
- Georgia

North and South America

Europe, Middle East and Africa



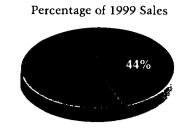
South Pacific Rim





Review

Aerospace			
{Amounts in thousands} Year ended December 31,	1997	1998	1999
Sales	\$727,346	\$782,339	\$745,786
Operating Income	50,341	65,154	65,571
Total Assets	582,374	612,543	704,037



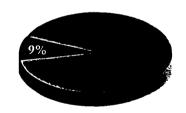
Propulsion			
(Amounts in thousands) Year ended December 31,	1997	1998	1999
Sales	\$177,653	\$268,615	\$276,561
Operating Income	11,389	13,415	6,293
Total Assets	282,092	355,955	355,141



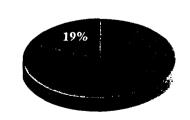
Metal Coating			
(Amounts in thousands) Year ended December 31,	1997	1998	1999
1ear ended December 31,	1777	1770	
Sales	\$200,037	\$193,652	\$201,747
Operating Income	20,334	14,859	19,122
Total Assets	125,296	132,953	135,654



Specialty Chemicals			
(Amounts in thousands) Year ended December 31,	1997	1998	1999
Sales	\$132,828	\$155,301	\$160,621
Operating Income	18,662	22,565	23,359
Total Assets	89,693	104,772	102,926



Other Products			
(Amounts in thousands) Year ended December 31,	1997*	1998*	1999
Sales	\$242,064	\$328,482	\$314,814
Operating Income	3,602	19,021	11,808
Total Assets	177,921	173,984	193,294



^{*}Results for 1997 and 1998 are pro forma to exclude contributions from divested operations.

Sequa in Review

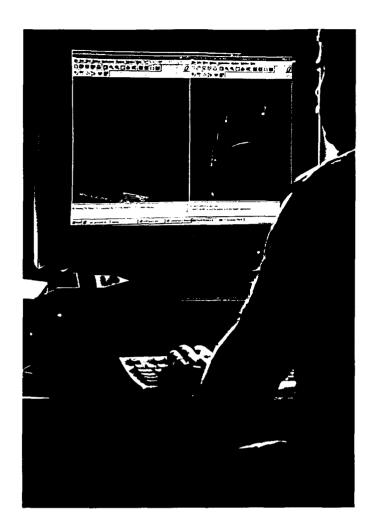
Aerospace

The leading independent supplier in the commercial jet engine component aftermarket, Chromalloy Gas

Turbine holds an unparalleled position among airlines and engine overhaul/maintenance shops as a proven resource for advanced component repairs. Chromalloy's value-added service restores worn parts to service-able condition, extending their useful life and substantially lowering the cost of engine maintenance.

Over the recent past, changes in the component aftermarket have spurred Chromalloy to partner with airline customers, providing longterm parts inventory management programs to a growing list of the world's major air carriers. In addition, the Gas Turbine unit has invested steadily in the development of proprietary advanced repairs and new replacement parts, approved by the Federal Aviation Administration and offered to airline customers as an efficient alternative to spare parts traditionally supplied by the jet engine manufacturers.

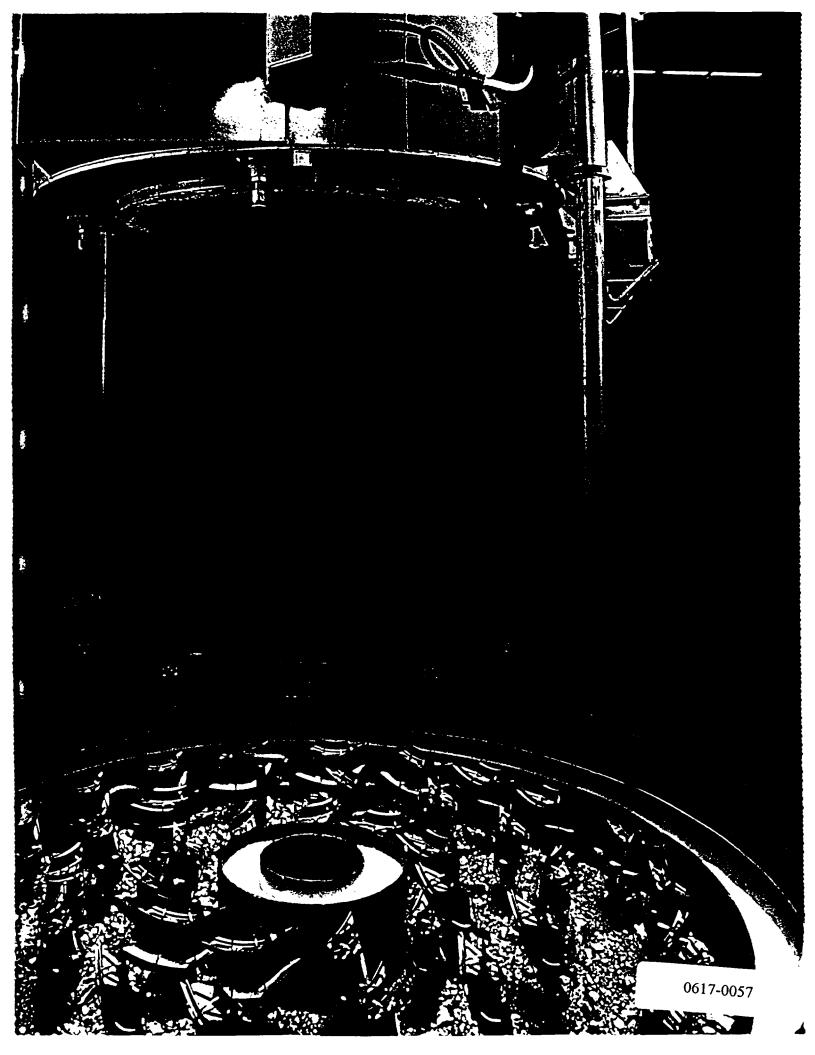
Other new initiatives include the formation of a joint venture with Willis Lease Finance to operate an independent maintenance, repair and overhaul facility on the West Coast. Lastly, 1999 marked the start of a major new military program to convert operations at Kelly Air Force Base in Texas to the private sector. The transition progressed rapidly in 1999, as Chromalloy hired and trained an initial group of 250 employees in



(above) Computer modeling is among the tools that Chromalloy uses to develop advanced proprietary parts repairs. Shown here is a screen image of a computerized solid model of a let engine vane.

(right) A hydrogen furnace provides efficient heat transfer in a vapor aluminide process to coat the interior serpentine passages of single crystal turbine parts for advanced jet engines. Trays of blades and vanes are stacked in the furnace for an eight-hour cycle that creates a bond between the coating and the substrate.





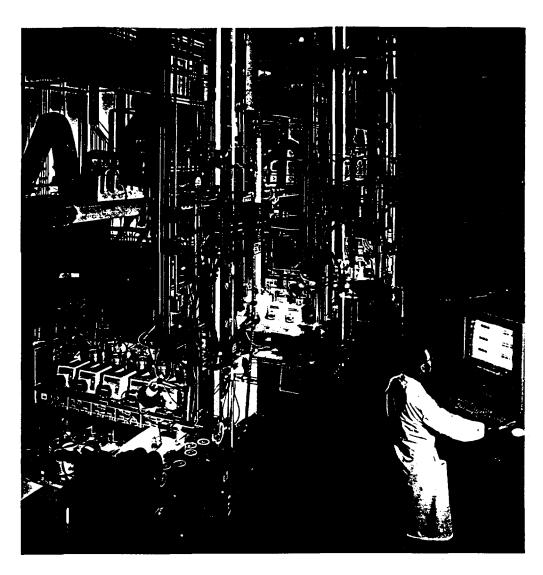
San Antonio to take responsibility for the repair of components on the advanced engines used by the Air Force to power planes in its fleet.

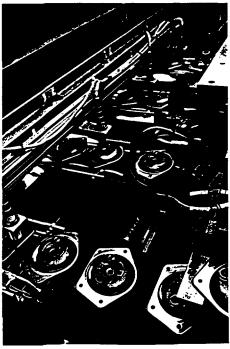
Propulsion

The world's leading producer of rocket motors for tactical weapons and a key supplier to the defense market for 50 years, ARC Propulsion presently serves both government and commercial customers with a wide range of technically advanced products. From rocket motors and gas generators for missiles to automotive airbag inflators, liquid and electric propulsion systems for satellites and composite structures for defense, aerospace and commercial aviation use, the panoply of ARC products derives from the extensive technical, engineering and production expertise resident at the unit.

Metal Coating

With a long-established position is a leader in the application of protective and decorative coatings to continuous coil metal for steel building products, Precoat Metals has moved aggressively to extend its reach to new markets where the pre-painting of metal in coil form is fast gaining ground. As a result, in Precoat presently supplies a growing sustomer base in the metal containing industry and in a diverse range of inanufactured product areas, including truck trailer panels, swimming





(above) At ARC's advanced materials facility, vertical chemical reactors produce silicone carbide fiber for titanium matrix composites. Lightweight and high strength, the composites are used in aerospace and other industrial applications.

(left) ARC's advanced dual-stage hybrid inflators for driver-side airbags are filled with argon gas and conveyed to a proof oven where they are heated to ensure that they will withstand increases in internal pressure.

(right) Precoat Metals' automated coating lines are precision controlled to apply a consistent, even layer of protective and decorative coatings to continuous coil metal. Here, a technician checks the alignment of coils to ensure the proper joining of an expiring coil to a new one.



pool wrappers and heating, ventilating and air conditioning units. With the advent of e-commerce to the steel industry and other industrial markets, Precoat has adapted its customer service model to accommodate business-to-business initiatives.

Specialty Chemicals

A leader in bleach activator technology, Warwick International holds a longstanding position in international markets as a supplier of TAED-based additives for laundry detergents, automatic dishwasher detergents and other household products. Over the recent past, Warwick has developed new applications for TAED in a wide range of biocidal products, such as denture cleaners, clinical sanitizing agents and agricultural disinfectants, and has extended its TAED capabilities to industrial markets, including pulp and paper processing, water treatment and textile bleaching.

Other Products

MEGTEC Systems

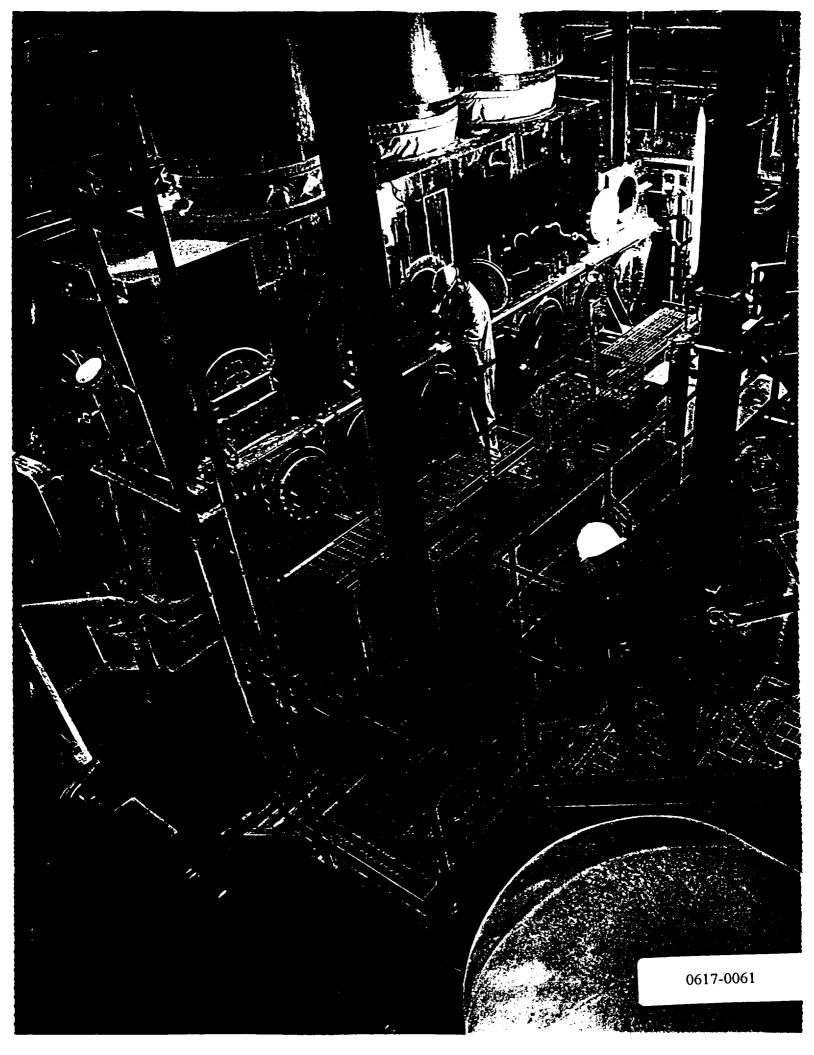
Since its formation in 1997, equipment supplier MEGTEC Systems has expanded its technical and product base through several strategic initiatives.

After licensing the zero-speed splicer technology of Butler Systems in 1998, MEGTEC purchased both Thermo Wisconsin, a supplier of continuous process dryers, air pollution control equipment and web handling systems, and the air emission control division



(above) The MEGTEC line of equipment includes advanced air flotation dryers for web offset printing. Designed to provide efficient, reliable performance, the dryers are built with a view toward ease of installation and maintenance. Here, a Dual-Dry III dryer is assembled at a facility in France.

(right) At a dedicated facility in the UK, Warwick manufactures TAED, a bleach activator used to enhance the performance of household detergents and industrial bleaching processes for textiles and paper products.



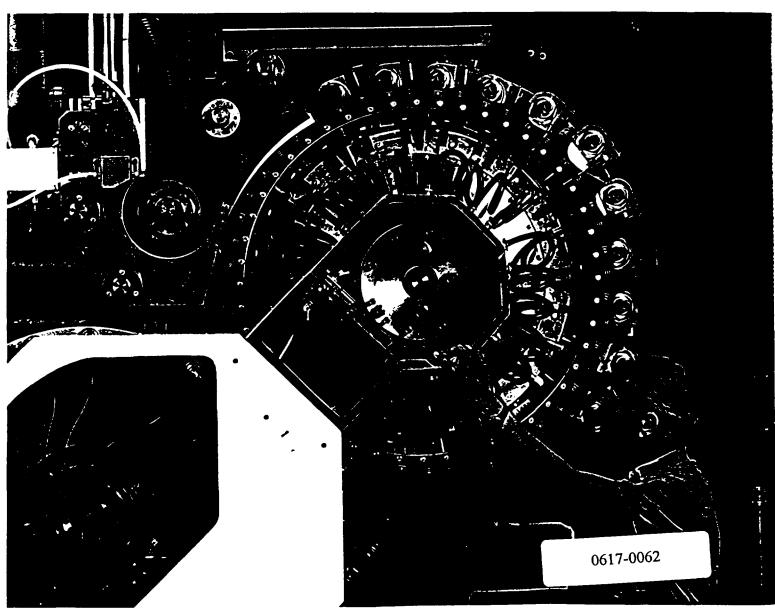
of Wolverine Corporation in 1999. As a result, MEGTEC has positioned itself as a prime resource to the worldwide printing, coating, converting and metal finishing industries.

Sequa Can Machinery

With the largest installed base of equipment in the global market for two-piece can forming and decorating equipment, Sequa Can Machinery sets the standard for innovative technology, product reliability and consistency of output at ever higher speeds. The current generation of can coaters and decorators operates at a rate of more than 2000 cans per minute, and Sequa Can offers customers a full line of retrofit kits to upgrade older equipment to higher speeds and add print colors and other advanced features. The unit also supplies a broad range of spare parts and provides an extensive network of field service support to customers in North and South America, Europe, Asia and the Pacific Basin.

Casco Products

A longstanding supplier of cigarette lighters and other components to the North American automotive industry, Casco Products has, over the recent past, moved successfully to broaden its product line, expand its manufacturing base and extend its market reach. In response to shifts in consumer preference and advances in car design, Casco has added power outlets and electronic sensors to its product offerings and has increased its US



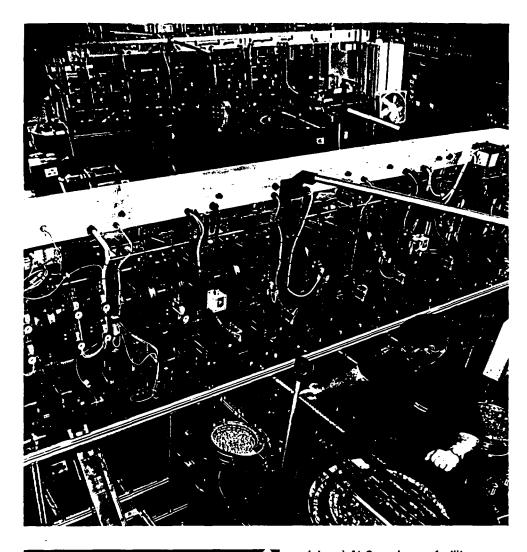
manufacturing capacity with the addition of a plant in Morgantown, Kentucky. During 1999, Casco strengthened its presence in international automotive markets through the acquisition of a German cigarette lighter producer. Earlier, Casco had acquired an operation in Italy and added a production facility in Brazil.

Men's Apparel

The leading supplier to the nation-wide rental market, the Men's Apparel unit designs and manufactures tuxedos and other formal attire that are marketed under three leading labels: After Six®, Oscar de la Renta® and Raffinati®. Tuxedos and accessories from Men's Apparel are available across the country, and the unit's web site (www.tuxedos4u.com) provides a nationwide rental store locator, as well as answers to frequently asked questions about formalwear and a convenient checklist for bridegrooms.

(left) The latest generation of decorating and coating equipment

speed machines.





(above) At Casco's new facility In Kentucky, the technology of advanced equipment combines with high performance teamwork to produce car cigarette lighters and power outlets.

(left) At the Men's Apparel plant in Georgia, a digitized pattern is used to ensure the consistent and efficient use of fabric in the making of tuxedos. Electronic pattern files are sent to computer-driven cutting equipment that automatically cuts up to 72 plies of fabric with speed and precision.

from Sequa Can Machinery
features a new spindle disc
assembly that provides greater
operating efficiency and improves
the performance of these high

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Operations by Business Segment

[Amounts in thousands]			
Year ended December 31,	1999	1998	1997
Aerospace	-		
Sales	\$ 745,786	\$ 782,339	\$ 727,346
Operating income	65,571	65,154	50,341
Total assets	704,037	612,543	582,374
Capital expenditures	49,603	50,007	30,143
Depreciation and amortization	38,811	37,982	39,879
Propulsion			
Sales	\$ 276,561	\$ 268,615	\$ 177,653
Operating income	6,293	13,415	11,389
Total assets	355,141	355,955	282,092
Capital expenditures	29,564	19,949	10,909
Depreciation and amortization	22,245	20,146	14,172
Metal Coating			
Sales	\$ 201,747	\$ 193,652	\$ 200,037
Operating income	19,122	14,859	20,334
Total assets	135,654	132,953	125,296
Capital expenditures	8,779	15,416	9,236
Depreciation and amortization	7,714	7,919	7,411
Specialty Chemicals			
Sales	\$ 160,621	\$ 155,301	\$ 132,828
Operating income	23,359	22,565	18,662
Total assets	102,926	104,772	89,693
Capital expenditures	5,276	3,090	4,171
Depreciation and amortization	6,215	9,114	9,841
Other Products			
Sales	\$ 314,814	\$ 402,486	\$ 357,261
Operating income	11,808	22,103	13,387
Total assets	193,294	173,984	236,099
Capital expenditures	7,856	14,795	12,698
Depreciation and amortization	10,142	12,418	12,631
Corporate			
Expenses	\$ (31,694)	\$ (32,633)	\$ (29,406)
Total assets (a)	180,646	243,940	276,121
Capital expenditures	304	267	1,803
Depreciation and amortization	2,029	1,742	1,881
Totals			
Sales	\$ 1,699,529	\$1,802,393	\$1,595,125
Operating income	94,459	105,463	84,707
Total assets	1,671,698	1,624,147	1,591,675
Capital expenditures	101,382	103,524	68,960
Depreciation and amortization	87,156	89,321	85,815

⁽a) Includes cash, investments and net assets of discontinued operations.

Selected Financial Data

(Amounts in millions, except per share data)					
Year ended December 31,	1999	1998*	1997	1996	1995
Operating results					
Sales	\$ 1,699.5	\$1,802.4	\$1,595.1	\$1,459.0	\$1,414.1
Operating income	94.5	105.5	84.7	65.2	67.9
Income before extraordinary item	27.8	63.9	19.6	9.6	8.8
Extraordinary loss	(5.7)			(0.4)	
Net income	\$ 22.1	\$ 63.9	\$ 19.6	\$ 9.2	\$ 8.8
Basic earnings per share					
Income before extraordinary item	\$ 2.48	\$ 6.01	\$ 1.66	\$.65	\$.57
Extraordinary loss	(.55)			(.04)	
Net income	\$ 1.93	\$ 6.01	\$ 1.66	\$.61	\$.57
Diluted earnings per share					
Income before extraordinary item	\$ 2.48	\$ 5.87	\$ 1.66	\$.65	\$.57
Extraordinary loss	(.55)			(.04)	
Net income	\$ 1.93	\$ 5.87	\$ 1.66	\$.61	\$.57
Cash dividends declared					
Preferred	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.00
Financial position					
Current assets	\$ 680.3	\$ 715.9	\$ 695.8	\$ 612.2	\$ 621.2
Total assets	1,671.7	1,624.1	1,591.7	1,548.2	1,622.0
Current liabilities	300.7	337.9	366.7	302.7	324.7
Long-term debt	569.9	500.7	508.7	531.9	563.2
Shareholders' equity	668.9	665.5	594.4	590.8	576.6

^{*}Income results for 1998 include gains on the divestiture of operations that increased after-tax income by \$35.2 million or \$3.43 per basic share.

Management's Discussion and Analysis of Financial Condition and Results of Operations

Operating Results 1999-1998

Sales

Sales of the Aerospace segment (Chromalloy Gas Turbine) declined 5% in 1999, as a 4% increase in aftermarket repair sales was more than offset by a sharp decline in sales to the aircraft engine manufacturers. While the increase in sales to the commercial aviation repair market reflects a generally higher level of overall demand, the advance was derived principally from contracts with major airlines to provide repair services and inventory management. These benefits were tempered by the continuing effects of competition from the jet engine manufacturers. The increase in military repair sales was driven by Chromalloy's share of sales from a seven-year program to privatize Kelly Air Force Base in San Antonio, Texas. This program, which was awarded in February 1999, began to contribute revenues in the second half of 1999. The decline in sales to the engine manufacturers primarily reflects three factors: a slowdown in demand for new aircraft engines; a loss of business due to global outsourcing programs; and the absence of sales from a United Kingdom unit divested in mid-1998, which had contributed sales of \$8.7 million in 1998. The 1999 trends in both repair and OEM sales are expected to continue in 2000.

Sales of the Propulsion segment (Atlantic Research Corporation (ARC) advanced 3% in 1999, as an 11% increase in solid propellant rocket motors was partially offset by a decline in sales of automotive airbag inflator products. Liquid propulsion sales were on a par with 1998. The advance in solid rocket motor sales primarily reflects an enhanced position in the market. The decline in airbag inflator products reflects reduced sales of energetic components to BAG SpA, a 50%-owned affiliate in Europe. This decline was partially offset by higher sales of airbag inflators, although a shift to lower-priced advanced products tempered the magnitude of the volume increase. For at least the next several years, sales of airbag inflators are largely dependent on ARC's largest customer, Breed Technologies, Inc. (Breed), which, along with certain of its US subsidiaries, filed voluntary petitions for reorganization under Chapter 11 of the United States Bankruptcy Code in September 1999. Future sales of energetic components for inflators are dependent on BAG SpA. (See the Risk/Concentration of Business section of this MD&A for additional information.) In the liquid propulsion portion of ARC's business base, the benefit of sales added by a late-1998 United Kingdom acquisition was offset by weakness in the US commercial satellite market. In the fourth quarter of 1999, the liquid rocket motor operation won a 12-year contract valued at approximately \$60 million (including options) to refurbish the post boost control system on the US Government Minuteman III missile.

Sales of the Metal Coating segment (Precoat Metals) rose 4% in 1999, with increases in each of its major market areas: building products, containers and manufactured products. The overall increase was tempered by the effect of sales lost when a

major building products customer acquired internal coating capacity in the second quarter of 1998. On a pro forma basis to exclude the impact of these lost sales, segment sales increased 8% in 1999.

Sales of the Specialty Chemicals segment (Warwick International) rose 3% (6% in local currency) in 1999, with increases in both TAED-based products and the distribution of specialty chemicals. The benefit of a strong volume increase in TAED was partially offset by the impact the strong British Pound Sterling had on pricing in the international marketplace. Demand for TAED rose sharply following the successful introduction by Warwick's customers of new detergent tablets. Demand was particularly strong in the fourth quarter and management currently anticipates that it will remain high at least through the first quarter of 2000. The benefit of this increased volume in the first quarter of 2000 will be unfavorably affected by further pricing pressures created by the continued strengthening of the British Pound Sterling against other key currencies.

Sales of the Other Products segment declined 22% in 1999, largely due to the late-1998 disposition of the domestic chemicals unit. On a pro forma basis, to eliminate the \$74.0 million of sales added by the chemicals unit in 1998, sales of ongoing businesses in the segment declined 4% in 1999. Sales of the MEGTEC unit declined 2% in 1999, as a sharp decline in the North American graphic arts industry more than offset the benefit of sales added by the February 1999 acquisition of Thermo Wisconsin and higher sales of emission control equipment. Sales to the industrial products market were on a par with 1998. Based on year-end backlog, management anticipates a weak first quarter 2000. Sales of the can machinery unit declined 38% in 1999 as a result of economic difficulties in its key export markets of Asia and South America. Management does not currently anticipate a significant sales recovery in 2000. Sales of the automotive products supplier. Casco Products, increased 23% in 1999, led by sales of Schoeller & Co. GmbH, a German automotive products supplier acquired in June 1999, and by strong worldwide demand for lighters and power outlets. Sales of the Men's Apparel unit increased 3% in 1999, reflecting continued strong demand for formal attire. This unit is expected to continue to generate strong sales in the first quarter of 2000.

Operating Income

Operating income in the Aerospace segment was modestly higher in 1999 than in 1998. Units primarily serving the repair aftermarket posted improvement, due to the benefits of higher sales and cost control programs. The results of OEM units were lower, due primarily to a combination of reduced volume and pricing constraints. Overall operating income for the segment reflects the effect of increased expenses to develop advanced processes and products, higher selling and administrative costs, and the absence of \$1.3 million of profit from a UK business divested in mid-1998. Both years were also affected by legal

Expenses related to litigation with the Pratt & Whitney division of United Technologies Corporation, which amounted to \$0.9 nillion in 1999 and \$5.5 million in 1998.

Operating income in the Propulsion segment declined 53% n 1999, with each of the three major product areas down from 1998 levels. The automotive airbag decline was primarily attribitable to lower margins, due to changes in mix, volume and price. Cost reduction programs began to offset these factors as the year progressed. The liquid rocket motor product line was affected by a weak US commercial satellite market, costs elated to a newly acquired unit in the United Kingdom, and higher bid and proposal costs on several key programs, of which we have been won, and one is still pending. The decline in the solid rocket motor business was primarily caused by lower margins resulting from the mix of sales and the impact of lower advanced materials sales.

Operating income in the Metal Coating segment advanced 19%. Despite continuing margin pressures in its major markets, he unit improved profitability through a combination of extenive cost reduction programs, quality improvement initiatives nd higher sales.

Operating income in the Specialty Chemicals segment was up 4% in 1999, as the benefit of a strong volume gain in deterent chemical sales was partially offset by the effect of currency actors — both on marketplace pricing and on the translation of results into US dollars. Comparisons for the first quarter of 000 will be unfavorably affected by currency factors, as the critish Pound Sterling has strengthened further against other tey currencies.

Operating income in the Other Products segment was 47% ower in 1999. On a pro forma basis, to eliminate the \$3.1 milion of 1998 profit from the now divested domestic chemicals nit, operating income was 38% lower. The principal factor in he decline was an unfavorable swing of \$6.0 million in the esults of MEGTEC, which had recorded a profit in 1998. The 999 MEGTEC loss reflects pricing pressures in key markets, ombined with a high level of research and development spendig and the expenses related to the integration of two businesses cquired during the year. Based on year-end backlog, managenent anticipates that MEGTEC will report a loss for the first uarter of 2000. Operating income at the can machinery unit eclined 32% in 1999, as the impact of lower sales was partially ffset by a favorable sales mix shift and the absence of 1998 sses and shutdown costs at a Texas facility. Profits of Casco roducts, the automotive products supplier, were on a par with 398, as profits added by the recently acquired German unit 1d improved results at the Brazilian and Italian operations ere offset by the effects of continued margin pressures on omestic operations. Profits of the Men's Apparel unit advanced, enefiting from higher sales and strict cost control.

Interest Expense

The increase in interest expense of approximately \$9.0 million was due to an increase in average borrowings resulting from the issuance in July 1999 of \$500 million of 9% Senior Notes due 2009, and to support Sequa's working capital needs. See the Liquidity and Capital Resources section of this MD&A regarding the use of proceeds of this debt offering.

Interest Income

The increase in interest income of approximately \$3.4 million was primarily due to the proceeds from the 9% Senior Notes issued in July 1999, which were temporarily invested in short-term instruments.

Equity in Loss/Income of Unconsolidated Joint Ventures

Sequa has investments in numerous unconsolidated joint ventures which amounted to \$42.4 million and \$11.1 million at December 31, 1999 and 1998, respectively. Sequa's equity in the net losses of these joint ventures was \$2.9 million in 1999 and \$4.9 million in 1998 (which included a \$2.1 million permanent impairment write-down related to a joint venture producing advanced titanium matrix composite fibers). The largest of these joint ventures are discussed in the following paragraphs.

During 1999 and 1998, Sequa had an investment in BAG SpA, an Italian company which manufactures and markets hybrid inflators for automotive airbags. In 1998 Sequa owned one of three equal interests in the venture, along with Breed (whose Italian subsidiary Breed Italian Holdings S.r.l. (BIH) is the venture's only customer) and a subsidiary of Fiat Avio. In April 1999, Sequa and Breed purchased equal shares from the Fiat Avio subsidiary, increasing their ownership to 50% each. In September 1999, Breed and certain of its US subsidiaries filed voluntary petitions for reorganization under Chapter 11 of the United States Bankruptcy Code. In December 1999, letters of credit issued by Sequa and Breed to guarantee BAG SpA's bank debt and other liabilities were drawn upon, in the case of Segua in the amount of \$10.4 million. At December 31, 1999, Sequa's investment in BAG SpA, including earlier contributions and the funds transferred under the letters of credit, totaled \$18.5 million. In January 2000, ARC, ARC Automotive Italia (a newly established subsidiary), BAG SpA and Breed signed a contract which provides for ARC Automotive Italia to acquire certain of the assets and the automotive inflator business of BAG SpA. The closing of this transaction is subject to several significant conditions, including the approval of the Bankruptcy Court overseeing Breed's reorganization and the completion of several other key agreements. See the Risk/ Concentration of Business section of this MD&A for additional information.

Sequa's share of the losses of the airbag joint ventures was \$1.9 million in 1999 and \$3.7 million in 1998, which included one month of 1998 losses of BAICO, the former domestic inflator joint venture, which became wholly owned on January 28, 1998.

Chromalloy Gas Turbine has several 50/50 joint venture partnerships, two of which are significant. The first is Advanced Coatings Technologies (ACT), a joint venture with United Technologies Corporation which owns and operates an electron beam ceramic coater for the application of Pratt & Whitney coatings to jet engine parts. The second, Pacific Gas Turbine (PGT), was formed in 1999 with Willis Lease Finance. PGT overhauls and tests certain jet engines. Sequa's investment in these two Gas Turbine partnerships at December 31, 1999 was \$13.4 million and its investment in ACT at December 31, 1998 was \$1.8 million. Sequa's equity share of earnings was \$0.2 million in 1999 and \$1.8 million in 1998.

Precoat Metals has a 50/50 partnership with NCI Building Systems, Inc. in Midwest Metal Coatings (MMC) to coat coils of heavy gauge steel for structural components used in the building products market. Sequa's investment in MMC at December 31, 1999 and 1998 was \$9.5 million and \$6.8 million, respectively, and its equity share of losses in the start-up phase of MMC was \$0.5 million in 1999 and \$0.1 million in 1998.

Other, Net

In 1999, Other, net included \$3.9 million of gains on the sale of excess real estate; \$2.7 million of income related to the demutualization of an issuer of corporate-owned life insurance policies; \$2.2 million of income related to the adjustment of the gain on the sale of Sequa Chemicals recorded upon final settlement with the purchaser; \$1.6 million of income related to the collection of a note receivable that was written off more than ten years ago; a \$1.3 million gain on the sale of short-term investments; \$1.0 million of income on the cash surrender value of corporate-owned life insurance; discount expense of \$2.3 million related to the sale of accounts receivable; charges of \$1.5 million for the amortization of capitalized debt issuance costs; and letters of credit and commitment fees of \$1.1 million. In 2000, management currently expects a significant increase in discount expense due to a higher average level of accounts receivable sold.

In 1998, Other, net included a \$2.0 million provision for the loss of funds advanced to a vendor engaged to implement a freight consolidation program; \$1.2 million in charges for the amortization of capitalized debt issuance costs; \$1.0 million of income on the cash surrender value of corporate-owned life insurance; and letters of credit and commitment fees of \$0.9 million.

Risk/Concentration of Business

Sequa is engaged in the automotive airbag inflator business through both ARC and ARC's 50% equity investment in BAG SpA. ARC's major customer for airbag inflators is Breed, which is supplied under the terms of a long-term contract. ARC also supplies inflator components to BAG SpA.

On September 20, 1999 (the "Filing Date"), Breed and certain of its US subsidiaries filed voluntary petitions for reorganization under Chapter 11 of the United States Bankruptcy Code in the United States Bankruptcy Court for the District of Delaware. Breed has received a commitment from its lending group for up to \$125 million of debtor-in-possession financing, which Breed expects will provide adequate funding for its post-petition trade and employee obligations. Subsequent to the Filing Date, ARC began shipping to Breed on a prepaid basis.

Under an Agreed Order and Stipulation that was entered with the Bankruptcy Court, ARC and Breed have agreed to enter into negotiations to modify the long-term supply contract. If these negotiations are unsuccessful, Breed must assume or reject the existing contract no later than May 1, 2000, unless the deadline is extended by the mutual consent of the two parties. Breed accounted for \$79.9 million of ARC's sales in 1999 and \$69.9 million in 1998. Additionally, Breed holds the remaining 50% equity investment in BAG SpA, and BIH, a foreign subsidiary of Breed, is the sole customer of BAG SpA. BAG SpA accounted for \$21.2 million of ARC's sales in 1999 and \$26.5 million in 1998.

At December 31, 1999, ARC had pre-petition net accounts receivable of \$12.1 million due from Breed and \$9.5 million of accounts receivable due from BAG SpA. BAG SpA had trade accounts receivable of \$22.2 million due from BIH (a subsidiary which is not part of the bankruptcy filing) and an additional \$1.2 million of non-trade receivables due from BIH. As of early March 2000, BIH was substantially current in its payment of receivables to BAG SpA. At December 31, 1999, neither ARC nor BAG SpA had any significant reserves related to the Breed or BIH accounts receivable. Management continues to monitor this situation closely.

Based on the current facts and circumstances, Sequa's management believes that the long-term supply contract with Breed will be accepted in either its current or modified form and therefore that the opportunity to recover the full amount of the \$12.1 million Breed pre-petition net accounts receivable remains. However, due to the uncertainty of the ultimate resolution of the Chapter 11 proceedings, Sequa has reclassified the receivable to long-term.

In January 2000, ARC, ARC Automotive Italia, BAG SpA and Breed signed a contract under which ARC Automotive Italia will acquire certain of the assets, as well as the automotive inflator business, of BAG SpA. While Sequa management currently anticipates that this transaction will close, it is subject to significant pre-closing conditions. In the event this transaction is not consummated, the \$18.5 million investment in BAG SpA and the \$9.5 million of accounts receivable due from BAG SpA would likely not be fully recoverable, primarily due to Breed's current inability in the Chapter 11 environment to make any additional capital contributions to BAG SpA to cover future cash requirements.

Derivative and Other Financial Instruments

Sequa is exposed to market risk from changes in foreign currency exchange rates which impact its earnings, cash flows and financial condition. Sequa manages its exposure to this market risk through its regular operating and financial activities and, when appropriate, through the use of derivative financial instruments. Sequa has well-established policies and procedures governing the use of derivative financial instruments as risk management tools and does not buy, hold or sell derivative financial instruments for trading purposes. Sequa's primary foreign currency exposures relate to the British, French, German and Italian currencies and to the Euro. To mitigate the short-term effect of changes in currency exchange rates, Sequa utilizes forward foreign exchange contracts and foreign currency options to hedge certain existing assets and liabilities, firm commitments and anticipated transactions denominated in currencies other than the functional currency.

A hypothetical 10% uniform decrease in all foreign currency exchange rates relative to the US dollar would decrease the fair value of Sequa's financial instruments by approximately \$11.8 million as of December 31, 1999 and \$10.8 million as of December 31, 1998. The sensitivity analysis relates only to Sequa's exchange rate-sensitive financial instruments, which include cash and debt amounts denominated in foreign currencies and all open foreign forward exchange contracts at December 31, 1999 and 1998. The effect of this hypothetical change in exchange rates ignores the effect this movement may have on the value of net assets, other than financial instruments, denominated in foreign currencies and does not consider the effect this movement may have on anticipated foreign currency cash flows.

At December 31, 1999 and 1998, substantially all of Sequa's debt was at fixed rates, and Sequa currently does not hold interest rate derivative contracts. Accordingly, a change in market interest rates would not impact Sequa's interest expense, but would affect the fair value of Sequa's debt. Generally, the fair market value of fixed-rate debt will increase as interest rates fall and decrease as interest rates rise. The estimated fair value of Sequa's total debt was approximately \$559 million at December 31, 1999 and \$521 million at December 31, 1998. A hypotheti-21 1% increase in interest rates would decrease the fair value of Sequa's total debt by approximately \$23.6 million at December 31, 1999 and \$12.4 million at December 31, 1998. A hypothetical 1% decrease in interest rates would increase the fair value of sequa's total debt by approximately \$26.0 million at December 31, 1999 and \$12.8 million at December 31, 1998. The fair value of Sequa's total debt is based primarily upon quoted market rices of Sequa's publicly traded securities. The estimated hanges in fair values of Sequa's debt are based upon changes n the present value of future cash flows derived from the sypothetical changes in market interest rates.

Year 2000 Computer Issue

Sequa did not encounter, and does not expect to encounter, any significant problems related to year 2000 (Y2K) computer issues. The total cost of hardware, software, training, testing and other costs related to Y2K remediation issues was approximately \$22.2 million, of which \$7.0 million was expensed and \$15.2 million was capitalized. These costs were in line with Sequa's previous estimates.

Euro Conversion

On January 1, 1999, certain member countries of the European Union established fixed conversion rates between their own currencies and the European Union's common currency (Euro). The transition period for the introduction of the Euro will extend to January 1, 2002. Sequa has identified Euro conversion compliance issues and started work to avoid anticipated problems.

Based on its evaluation, management believes that the introduction of the Euro, including the total costs for the conversion, will not have a material adverse effect on Sequa's financial position, results of operations or cash flows. However, uncertainty exists as to the effects the Euro will have on the marketplace, and there is no guarantee that all problems will be foreseen and corrected or that third parties will address the conversion successfully.

Environmental Matters

Sequa's environmental department, under senior management's direction, manages all activities related to Sequa's involvement in environmental clean-up. This department establishes the projected range of expenditures for individual sites with respect to which Sequa may be considered a potentially responsible party under applicable federal or state law. These projected expenditures, which are reviewed periodically, include: remedial investigation and feasibility studies; outside legal, consulting and remediation project management fees; the projected cost of remediation activities; and site closure and post-remediation monitoring costs. The assessments take into account currently available facts, existing technology, presently enacted laws, past expenditures, and other potentially responsible parties and their probable level of involvement. Outside technical, scientific and legal consulting services are used to support management's assessments of costs at significant individual sites.

It is Sequa's policy to accrue environmental remediation costs for identified sites when it is probable that a liability has been incurred and the amount of loss can be reasonably estimated. At December 31, 1999, the potential exposure for such costs is estimated to range from \$15 million to \$27 million, and Sequa's Consolidated Balance Sheet includes accruals for remediation costs of \$23.4 million. These accruals are at undiscounted amounts and are included in accrued expenses and other non-current liabilities. Actual costs to be incurred at identified sites

in future periods may vary from the estimates, given inherent uncertainties in evaluating environmental exposures.

With respect to all known environmental liabilities, Sequa's actual cash expenditures for remediation of previously contaminated sites were \$4.9 million in 1999, \$8.2 million in 1998 and \$9.7 million in 1997. Sequa anticipates that remedial cash expenditures will be between \$4 million and \$7 million during 2000 and between \$4 million and \$6 million during 2001. Sequa's capital expenditures for projects to eliminate, control or dispose of pollutants were \$1.6 million, \$2.3 million and \$4.6 million in 1999, 1998 and 1997, respectively. Sequa anticipates annual environmental-related capital expenditures to be approximately \$6 million during 2000 and \$2 million during 2001. Sequa's operating expenses to eliminate, control and dispose of pollutants have averaged approximately \$11 million per year during the last three years. Sequa anticipates that environmental operating expenses will be approximately \$11 million per year during 2000 and 2001.

Backlog

The businesses of Sequa for which backlogs are significant are the Turbine Airfoils, Caval Tool, Turbocombuster Technology and Castings units of the Aerospace segment; the solid and liquid rocket motor operations of the Propulsion segment; and the can machinery, MEGTEC and Men's Apparel units of the Other Products segment. The aggregate dollar amount of backlog in these units at December 31, 1999 was \$289.5 million (\$305.4 million at December 31, 1998). The decline is largely attributable to a 16% backlog reduction at the Gas Turbine OEM units partially offset by an increase in the Propulsion segment. Sales of the Men's Apparel unit are seasonal, with stronger sales in the first six months of the year; accordingly, this unit's backlog is normally higher at December 31 than at any other time of the year.

Liquidity and Capital Resources

Net cash provided by operating activities was \$5.2 million in 1999, compared with \$47.4 million in 1998. The major reason for the 1999 decline was a higher level of working capital requirements at the Gas Turbine unit, where the increase was largely related to increased inventory levels to support the repair business, partially offset by an \$11.0 million reduction in income taxes paid. Net cash used for investing activities was \$138.4 million in 1999, compared with \$6.5 million in 1998. The major factors in the 1999 increase were the absence of \$121.3 million of 1998 proceeds from the sale of two business units and the \$31.5 million increase in other investing activities, which was primarily related to increased investments in joint ventures. These factors were tempered by a \$14.8 million reduction in businesses purchased. Net cash provided by financing activities was \$121.4 million in 1999, compared with net cash used for financing activities of \$51.9 million in 1998. In July 1999, Sequa received net proceeds of \$490.9 million from the issuance of new

public debt. At December 31, 1999, \$70.0 million of accounts receivable had been sold pursuant to a Receivables Purchase Agreement. The agreement provides for the sale of eligible receivables up to \$120.0 million and expires in November 2003. Sequa used \$439.4 million of the proceeds from these transactions to retire principal amounts outstanding under public debt issues. In 1998 Sequa retired \$52.6 million of debt.

In May 2001, Sequa will be required to repay the remaining \$66.4 million principal balance of its medium-term notes, with a weighted average interest rate of 10.1%. Sequa presently intends to refinance this debt using its revolving credit agreement.

Sequa has had an issue with the Internal Revenue Service (IRS) involving the 1989 restructuring of two subsidiaries. While management believes its tax position in this matter was appropriate, it has taken the conservative position of providing reserves to cover an adverse outcome. At December 31, 1999, the net amount involved was approximately \$59 million, composed of the potential liability associated with the restructuring and related tax issues; interest expense, net of tax benefit, from the date of the resulting tax refund; and deferred tax assets for portions of tax loss and credit carryforwards which could be utilized in a settlement. In October 1998, Sequa made a deposit of \$24.0 million with the IRS against the expected liability for additional tax and interest that may be assessed against Sequa related to certain of these tax matters. The deposit stopped the running of interest with respect to the amounts deposited. Management has been in discussions with the IRS on these matters for several years and recently reached an informal agreement settling this matter with the IRS. There are several steps involved in finalizing this agreement, including approval by the Joint Committee on Taxation of the US Congress. If the agreement is approved, no significant additional tax or interest will be paid or refunded. Management anticipates that the agreement with the IRS will be finalized in the next 12 months, at which time approximately \$35 million, representing the reversal of reserves no longer required, would be recorded as income through a reduction of the income tax provision.

Capital expenditures amounted to \$101.4 million in 1999, with spending concentrated in the Aerospace and Propulsion segments. These funds were primarily used to upgrade existing facilities and equipment and to expand capacity. Sequa currently anticipates that capital spending in 2000 will be approximately \$115 million and will again be concentrated in the same segments.

Management currently anticipates that cash flow from operations, the \$99.0 million of credit available at March 15, 2000 under the revolving credit agreement, the \$21.0 million of available financing under the Receivables Purchase Agreement at March 15, 2000, and the \$68.2 million of cash and cash equivalents on hand at December 31, 1999 will be sufficient to fund Sequa's operations, niche acquisitions and airline spare parts inventory purchases for the next year.

Other Information

Statement of Financial Accounting Standards (SFAS) No. 133, "Accounting for Derivative Instruments and Hedging Activities," was issued in June 1998. This statement requires companies to record derivatives on the balance sheet as assets and liabilities, measured at fair value. Depending on the use of a derivative and whether it has been designated and qualifies as a hedge, gains or losses resulting from changes in the value of the derivative would be recognized currently in earnings or reported as a component of other comprehensive income. This statement is not expected to have a material effect on Sequa's consolidated financial statements. Recently, the effective date of this statement was delayed to fiscal years beginning after June 15, 2000, with earlier adoption encouraged. Sequa will adopt this accounting standard by January 1, 2001.

Forward-Looking Statements

This document includes forward-looking statements made under the safe harbor provisions of the Private Securities
Litigation Reform Act of 1995. These statements are based on management's current expectations, estimates and projections that are subject to risks and uncertainties, including, but not limited to: political, currency, regulatory, competitive and technological developments. Consequently, actual results could differ materially from these forward-looking statements.

Operating Results 1998—1997

Sales

Sales of the Aerospace segment increased 8% in 1998, with advances in both the engine component repair aftermarket and the original equipment market. The increase reflects strong demand from the international airline industry, tempered by the ongoing effect of intense competition from the jet engine manufacturers for aftermarket repair.

In February 1999, the US Air Force awarded a seven-year, \$10.1 billion aircraft engine maintenance contract to a consortium that includes Gas Turbine, related to the privatization of facilities at Kelly Air Force Base in San Antonio, Texas. Also in February, the Gas Turbine unit was awarded a seven-year repair service and inventory management contract to continue repair work with a major airline.

Sales of the Propulsion segment increased 51% in 1998, due entirely to the inclusion of airbag inflator sales following the January 28, 1998 purchase of the remaining 50% interest in a domestic airbag inflator joint venture that was not previously owned by Sequa. Military sales of solid propellant rocket motors for tactical and strategic weapons increased 3% in 1998, while sales of liquid propellant rocket motors used primarily for satellite station keeping declined 42%, primarily due to reduced demand from commercial customers and lower funding on a US Government contract.

Sales of the Metal Coating segment decreased 3%, as declines in the large building products line and the smaller container coating product line more than offset an increase in other manufactured products. In building products, the decline was due entirely to reduced demand when two major customers brought work in-house that was previously handled by Precoat—one due to the late-1997 settlement of a strike, and the other due to the acquisition of coating capacity in the second quarter of 1998. Excluding the impact of the lower sales to these two customers, sales for both the building products line and the entire segment would have advanced in 1998.

Sales of the Specialty Chemicals segment advanced 17% in 1998, due primarily to the early 1998 acquisition of an Italian specialty chemicals distribution business and to the strong performance of existing specialty chemical distribution units. Sales of the detergent additive TAED to the international market recorded a small decline, as higher volumes were offset by continued unfavorable currency movements.

Sales of the Other Products segment increased 13% in 1998. On a pro forma basis — excluding the results of the domestic chemicals and Northern Can Systems (NCS) units, which were sold in 1998 and 1997, respectively — the sales of ongoing businesses in the segment increased 36% in 1998. The advance was driven primarily by a \$79.2 million increase at the MEGTEC unit, following the acquisition of TEC Systems in the third quarter of 1997 and its integration with Sequa's existing MEG operation. The increase reflects overall strength in the combined unit's graphic arts product line; strong performance of its European emission control business and the addition of a zerospeed paster product line acquired in 1998. Sales of the can machinery unit increased 6% in 1998, primarily due to higher sales to the domestic food can market. Sales of the automotive products unit declined 1%, as increased European volume and sales from a Brazilian operation added in the second quarter of 1998 largely offset a decline in domestic volume. Sales of the Men's Apparel unit increased 13% in 1998, with the improvement derived largely from sales of tuxedos under the After Six label which was acquired in 1997. For the ten months prior to its October 28, 1998 disposition, the domestic chemicals unit recorded \$74.0 million in sales; 1997 sales were \$82.3 million. The NCS unit had sales of \$32.9 million prior to its disposition in late 1997.

Operating Income

Operating income in the Aerospace segment increased 29% in 1998, with units operating in both the repair and original equipment manufacture (OEM) markets registering advances. The units operating primarily in the repair market benefited from increased volume, programs to reduce manufacturing costs, and controls over operating expenses. The group of units operating primarily in the OEM arena benefited from increased sales,

tighter controls on operating expenses, improved labor efficiencies and better performance at the castings unit. The segment also benefited from a lower level of legal expenses related to litigation with the Pratt & Whitney division of United Technologies Corporation (expense of \$5.5 million in 1998 versus \$9.9 million in 1997). The positive movement in litigation expense was partially offset by the absence in 1998 of \$2.7 million in operating income derived from the settlement of a dispute with the Egyptian government in 1997.

Operating income advanced 18% in the Propulsion segment, with the automotive airbag operation and the solid propellant rocket motor product lines moving higher and the liquid rocket motor business declining. The benefits of \$96.5 million of sales added in automotive airbags were largely offset by several factors, including a \$10.0 million increase in research and development expense and costs related to the start-up of new products and new production lines.

Operating income of the Metal Coating segment declined 27% in 1998, primarily due to lower sales, an unfavorable sales mix shift, lower margins brought about by increased manufacturing, scrap and claims costs, and a weak market for non-prime metal.

Profits in the Specialty Chemicals segment increased 21% in 1998, reflecting a favorable pension comparison of the unit's overfunded plan; the additional profits from the newly acquired Italian specialty chemicals distribution business; and improvements at the other European specialty chemicals distribution units and in the TAED product line. The improvements in the TAED product line reflect the benefits of aggressive cost reduction efforts, which more than offset the currency related effect on pricing.

Operating income in the Other Products segment advanced 65% in 1998. On a pro forma basis — excluding the results of operations divested in 1998 and 1997 - segment operating income more than quadrupled, rising to \$19.0 million in 1998. The advance was driven by the significant turnaround at MEGTEC. This unit, which had incurred a significant loss in 1997, posted a profit in 1998 — a swing of \$15.0 million for the year. This improvement was derived from higher sales; the realization of acquisition synergies; lower warranty and bad debt costs; and the absence of significant one-time charges incurred to effect the combination of MEG and TEC. Profits at the can machinery operation increased 27%, due to reduced warranty expense and cost reduction measures instituted in late 1997 and to the benefits of higher sales. These favorable factors were partially offset by losses and shutdown costs at a Texas facility. The automotive products unit recorded an 11% decline in operating income, primarily due to start-up costs at new facilities in Kentucky and Brazil; to lower margins resulting from continued pressure on prices; and to the impact of the General Motors strike. The Men's Apparel unit recorded a 7% increase in operating income in 1998 due to increased sales. Profits of the

domestic chemicals unit — which was sold in October 1998 — totaled \$3.1 million in the first ten months of the year (after a \$3.0 million provision to remediate ground water pollution) and \$8.0 million for the full year 1997. NCS recorded operating income of \$1.8 million prior to its disposal in 1997.

Interest Expense

The increase in interest expense of approximately \$1.5 million was due to an increase in average borrowings outstanding under Sequa's revolving credit agreement.

Equity in Loss/Income of Unconsolidated Joint Ventures Sequa's share of the losses of the airbag businesses was \$3.7 million in 1998 and \$1.8 million in 1997. Sequa's share of the losses or earnings of its remaining joint ventures was an equity loss of \$1.2 million in 1998, including a \$2.1 million impairment write-down, and equity income of \$2.0 million in 1997.

Other, Net

In 1998, Other, net included a \$2.0 million provision related to the loss of funds advanced to a vendor engaged to implement a freight consolidation program; \$1.2 million in charges for the amortization of capitalized debt issuance costs; \$1.0 million of income on the cash surrender value of corporate-owned life insurance; and letters of credit and commitment fees of \$0.9 million.

In 1997, Other, net included gains on the sale of assets of \$2.5 million; letters of credit and commitment fees of \$1.6 million; \$1.4 million in charges for the amortization of capitalized debt issuance costs; and \$1.3 million of income on the cash surrender value of corporate-owned life insurance.

Liquidity and Capital Resources

Net cash provided by operating activities was \$47.4 million in 1998, compared with \$100.6 million in 1997. The major reasons for the 1998 decline were the higher levels of working capital requirements at existing businesses, and the \$24.0 million deposit paid to the Internal Revenue Service related to a tax dispute involving the 1989 restructuring of two subsidiaries. Net cash used for investing activities was \$6.5 million in 1998, compared with \$94.6 million in 1997. The major factors in the 1998 decline were the significantly higher level of proceeds from businesses and other assets sold, partially offset by the \$34.6 million increase in capital expenditures. Net cash used for financing activities increased \$51.1 million in 1998, primarily due to the higher level of debt repayment.

Consolidated Balance Sheet

(Amounts in thousands)		
At December 31,	1999	1998
Assets		
Current assets		
Cash and cash equivalents	\$ 68,164	\$ 84,889
Short-term investments (Note 2)	_	11,475
Trade receivables, net (Note 3)	239,532	292,152
Unbilled receivables, net (Note 4)	32,130	38,795
Inventories (Note 5)	315,158	262,765
Other current assets	25,275	25,792
Total current assets	680,259	715,868
Investments		
Net assets of discontinued operations (Note 6)	98,912	105,152
Investments and other receivables (Note 7)	74,015	28,130
	172,927	133,282
7	474,558	451 442
Property, plant and equipment, net (Note 8)	474,000	451,443
Other assets		
Excess of cost over net assets of companies acquired	314,257	307,051
Deferred charges and other assets	29,697	16,503
	343,954	323,554
Total assets	\$1,671,698	\$1,624,147

The accompanying notes are an integral part of the financial statements.

At December 31,	1999	1998
Liabilities and Shareholders' Equity		
Current liabilities		
Current maturities of long-term debt (Note 9)	\$ 5,297	\$ 8,659
Accounts payable	129,214	137,981
Taxes on income (Note 10)		16,499
Accrued expenses (Note 11)	166,192	174,800
Total current liabilities	300,703	337,939
Noncurrent liabilities		
Long-term debt (Note 9)	569,917	500,685
Deferred taxes on income (Note 10)	43,462	40,422
Other noncurrent liabilities	88,719	79,649
Total noncurrent liabilities	702,098	620,756
Shareholders' equity (Notes 9, 14, 15 and 16)		
Preferred stock — \$1 par value, 1,825,000 shares authorized; 797,000		
shares of \$5 cumulative convertible stock issued at December 31, 1999		
and 1998 (involuntary liquidation value — \$17,181 at December 31, 1999)	797	797
Class A common stock — no par value, 50,000,000 shares authorized;		
7,281,000 shares issued at December 31, 1999 and		
7,273,000 shares issued at December 31, 1998	7,281	7,273
Class B common stock — no par value, 10,000,000 shares authorized;		
3,727,000 shares issued at December 31, 1999 and 1998	3,727	3,727
Capital in excess of par value	288,437	288,379
Retained earnings	464,672	444,669
Accumulated other comprehensive loss	(16,453)	(1,016)
	748,461	743,829
Less: cost of treasury stock	79,564	78,377
Total shareholders' equity	668,897	665,452
Total liabilities and shareholders' equity	\$1,671,698	\$1,624,147

Consolidated Statement of Income

(Amounts in thousands, except p	er share data)
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Year ended December 31,		1999		1998		1997
Sales	\$1,69	99,529	\$1	,802,393	\$ 1	,595,125
Costs and expenses						
Cost of sales	1,35	59,706	1	,444,914	1	,285,829
Selling, general and administrative	24	15,364		252,016		224,589
	1,60	5,070	1	,696,930	1	,510,418
Operating Income	Ş	94,459		105,463		84,707
Other income (expense)						. —
Interest expense	(6	60,770)		(51,776)		(50,298)
Interest income		9,252		5,868		6,052
Gain on sale of businesses (Note 17)				56,542		
Equity in (loss) income of unconsolidated joint ventures (Note 7)	((2,851)		(4,876)		223
Other, net (Note 18)		9,309		(3,224)		1,143
	(4	15,060)		2,534		(42,880)
Income before income taxes	4	19,399		107,997		41,827
Income tax provision (Note 10)	(2	21,600)		(44,100)		(22,200)
Income before extraordinary item	2	27,799		63,897		19,627
Extraordinary loss on early retirement of debt,						
net of tax benefit of \$3,087 (Note 9)		(5,732)				
Net income	2	22,067		63,897		19,627
Preferred dividends		(2,064)		(2,173)		(3,051)
Net income available to common stock	\$ 2	20,003	\$	61,724	\$	16,576
Basic earnings per share (Note 20)						
Income before extraordinary item	\$	2.48	\$	6.01	\$	1.66
Extraordinary loss		(.55)				_
Net income	\$	1.93	\$	6.01	\$	1.66
Diluted earnings per share (Note 20)						
Income before extraordinary item	\$	2.48	\$	5.87	\$	1.66
Extraordinary loss		(.55)				
Net income	\$	1.93	\$	5.87	\$	1.66

The accompanying notes are an integral part of the financial statements.

Consolidated Statement of Cash Flows

The accompanying notes are an integral part of the financial statements.

(Amounts in thousands)			
Year ended December 31,	1999	1998	1997
Cash flows from operating activities			
Income before income taxes	\$ 49,399	\$ 107,997	\$ 41,827
Adjustments to reconcile income to net cash provided by operating act	ivities:		
Depreciation and amortization	87,156	89,321	85,815
Provision for losses on receivables	6,413	4,276	8,316
Gain on sale of businesses	_	(56,542)	_
Gain on sale of assets	(3,898)	(82)	(2,465)
Equity in loss (income) of unconsolidated joint ventures	2,851	4,876	(223)
Other items not providing cash	(4,232)	(2,521)	(2,008)
Changes in operating assets and liabilities, net of businesses acquired a	nd sold:		
Receivables	(36,853)	(12,512)	(23,088)
Inventories	(56,169)	(12,998)	(15,783)
Other current assets	4,900	(4,997)	156
Accounts payable and accrued expenses	(17,462)	(22,634)	25,836
Other noncurrent liabilities	4,890	(1,331)	(8,404)
Net cash provided by continuing operations before income taxes	36,995	92,853	109,979
Net cash provided by discontinued operations before income taxes	4,014	1,322	3,929
Income taxes paid, net	(35,816)	(46,793)	(13,358)
Net cash provided by operating activities	5,193	47,382	100,550
Cash flows from investing activities			
Purchase of property, plant and equipment	(101,382)	(103,524)	(68,960)
Sale of property, plant and equipment	12,572	12,386	8,511
Sale of businesses, net of cash sold	_	121,333	28,178
Businesses purchased, net of cash acquired	(25,827)	(40,662)	(36,058)
Short-term investments	15,041	11,234	(25,000)
Other investing activities	(38,799)	(7,294)	(1,228)
Net cash used for investing activities	(138,395)	(6,527)	(94,557)
Cash flows from financing activities			
Proceeds from debt, net of issuance costs	490,903		2,275
Payments of debt	(149,593)	(52,576)	(3,312)
Early retirement of debt	(289,850)	_	_
Proceeds from sale of accounts receivable, net	70,000	_	_
Other financing activities	(88)	658	175
Net cash provided by (used for) financing activities	121,372	(51,918)	(862)
Effect of exchange rate changes on cash and cash equivalents	(4,895)	2,209	(3,467)
Vet (decrease) increase in cash and cash equivalents	(16,725)	(8,854)	1,664
Cash and cash equivalents at beginning of year	84,889	93,743	92,079
Cash and cash equivalents at end of year	\$ 68,164	\$ 84,889	\$ 93,743

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Consolidated Statement of Shareholders' Equity

(Amounts in thousands, except per share data)	Preferred Stock	Class A Common Stock	Class B Common Stock	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Total Shareholders' Equity
Balance at December 31, 1996	\$797	\$7,188	\$3,727	\$285,912	\$366,369	\$10,512	\$(83,729)	\$590,776
Net income	_			_	19,627	_	_	19,627
Foreign currency translation adjustment		_	_		_	(17,306)		(17,306)
Comprehensive income								2,321
Amortization of restricted stock grant	_	_	_	_	_	_	165	165
Stock grants forfeited	_	_		46	_	_	(71)	(25)
Stock options exercised Tax benefits on stock	_		_	(3,601)		_	6,827	3,226
options and grants Cash dividends:	_			982		_	_	982
Preferred — \$5.00 per share					(3,051)	_		(3,051)
Balance at December 31, 1997	797	7,188	3,727	283,339	382,945	(6,794)	(76,808)	594,394
Net income	_	_		_	63,897	_	-	63,897
Foreign currency translation adjustment Unrealized loss on marketable	_	_		_		7,267	_	7,267
securities	_					(2,291)		(2,291)
Tax benefit for unrealized loss on marketable securities	; 	_	_	_		802	_	802
Comprehensive income								69,675
Stock options exercised	_	85		2,023		_	723	2,831
Stock grants Exchange of common	_			(10)	_		10	_
stock for preferred		_		2,302	· . -	_	(2,302)	725
Tax benefits on stock options Cash dividends: Preferred — \$5.00 per share		_		725	(2,173)			(2,173)
Balance at December 31, 1998	797	7,273	3,727	288,379	444,669	(1,016)	(78,377)	665,452
Net income	191	1,213	3,121	200,379	22,067	(1,010)	(10,311)	22,067
Foreign currency	_	_		_	22,007			22,007
translation adjustment Reversal of unrealized loss on		_	-	_	_	(16,926)	_	(16,926)
marketable securities Tax provision for reversal of unrealized loss on	-	_		. –	_	2,291	<u></u>	2,291
marketable securities	—	_	~	_	_	(802)		(802) 6,630
Comprehensive income		n		21			207	
Stock options exercised Stock grants	_	8		31 (52)	_	_	327 156	366 104
Repurchase of common stock	_	_	_		_		(1,670)	(1,670)
Tax benefits on stock options		_		79	_	_		79
Cash dividends: Preferred — \$5.00 per share					(2,064)	·		(2,064)
Balance at December 31, 1999	\$797	\$7,281	\$3,727	\$288,437	\$464,672	\$(16,453)\$	(79,564)	\$668,897

The accompanying notes are an integral part of the financial statements.

Notes to Consolidated Financial Statements

Note 1. Summary of Significant Accounting Policles

Basis of Presentation

The consolidated financial statements of Sequa Corporation (Sequa) include the accounts of all majority-owned subsidiaries. Investments in 20% to 50% owned joint ventures are accounted for on the equity method. All material accounts and transactions between the consolidated subsidiaries have been eliminated in consolidation.

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents

Sequa considers time deposits, certificates of deposit and marketable securities with original maturities of three months or less to be cash equivalents. Where the right of set-off exists, Sequa has netted overdrafts with unrestricted cash and cash equivalents.

Marketable Securities

Investments in common stock classified as available-for-sale securities are carried at fair value as determined by the most recently traded price of such securities, with the unrealized gains and losses, net of tax, reported in Accumulated Other Comprehensive Income (Loss), a separate component of shareholders' equity.

inventories and Contract Accounting

Inventories are stated at the lower of cost or market. Sequa's non-contract inventories are currently valued primarily on a first-in, first-out (FIFO) basis. Inventoried costs relating to long-term contracts are stated at actual or average costs, including engineering and manufacturing labor and related overhead incurred, reduced by amounts identified with sales. The costs attributable to sales reflect the estimated costs of all items to be produced under the related contract.

Property, Plant and Equipment, Net

For financial reporting purposes, depreciation and amortization are computed using the straight-line method to amortize the cost of assets over their estimated useful lives. Accelerated depreciation methods are used for income tax purposes.

Sequa reviews properties for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be fully recoverable. If the undiscounted future cash flows expected to result from the use of an asset and its eventual disposition are less than the carrying amount of the asset, the property is written down to its fair market value.

Excess of Cost Over Net Assets of Companies Acquired

Excess of cost over net assets of companies acquired (goodwill) is being amortized on a straight-line basis over periods not exceeding forty years. The recoverability of goodwill is evaluated at the operating unit level by an analysis of operating results and consideration of other significant events or changes in the business environment. If an operating unit has current operating losses and, based upon projections, there is a likelihood that such operating losses will continue, Segua evaluates whether impairment exists over the remaining amortization period on the basis of undiscounted expected future cash flows from operations before interest. If impairment exists, the carrying amount of the goodwill is reduced to market value. Amortization charged against earnings in 1999, 1998 and 1997 was \$12,617,000, \$11,637,000 and \$10,919,000, respectively. Accumulated amortization at December 31, 1999 and 1998 was \$141,228,000 and \$128,611,000, respectively.

Foreign Currency Translation

The financial position and results of operations of Sequa's foreign subsidiaries are measured using local currency as the functional currency. Assets and liabilities of operations denominated in foreign currencies are translated into US dollars at exchange rates in effect at year-end, while revenues and expenses are translated at weighted average exchange rates prevailing during the year. The resulting translation gains and losses are charged or credited directly to Accumulated Other Comprehensive Income (Loss), a separate component of shareholders' equity, and are not included in net income until realized through sale or liquidation of the investment. Foreign exchange gains and losses incurred on foreign currency transactions are included in net income.

Derivative Financial Instruments

Derivative financial instruments are utilized to manage foreign exchange risks and, to a lesser extent, to manage natural gas price risks. Sequa has established a control environment which includes policies and procedures for risk assessment and the approval, reporting and monitoring of derivative financial instrument activities. Sequa does not buy, hold or sell derivative financial instruments for trading purposes.

Gains and losses on forward exchange contracts designated as hedges of existing assets and liabilities and anticipated transactions are recognized in income as exchange rates change. Gains and losses on forward exchange contracts that hedge firm commitments are deferred and included in the basis of the transactions when they are completed. The cost of foreign currency options purchased to hedge anticipated transactions is amortized to expense on a straight-line basis over the life of the option. Gains or losses on purchased options are deferred and included in the basis of the anticipated transactions if, and when, the options are exercised.

Unrealized changes in the market values of outstanding natural gas swaps designated as hedges are deferred, and the monthly payments received from, or paid to, the counterparties of the swaps are included in earnings during the period in which settlements are made.

Environmental Remediation and Compliance

It is Sequa's policy to accrue environmental remediation costs for identified sites when it is probable that a liability has been incurred and the amount of loss can be reasonably estimated.

Accrued environmental remediation and compliance costs include remedial investigation and feasibility studies; outside legal, consulting and remediation project management fees; projected cost of remediation activities; and site closure and post-remediation monitoring costs. At December 31, 1999, the potential exposure for such costs is estimated to range from \$15,000,000 to \$27,000,000, and Sequa's Consolidated Balance Sheet includes accruals for remediation costs of \$23,355,000. These accruals are at undiscounted amounts and are included in accrued expenses and other noncurrent liabilities. Actual costs to be incurred at identified sites in future periods may vary from the estimates, given inherent uncertainties in evaluating environmental exposures.

Revenue Recognition

Generally, sales are recorded when products are shipped or when services are rendered. Long-term contracts are accounted for under the percentage-of-completion method, whereby sales are primarily recognized based upon costs incurred as a percentage of estimated total costs, and gross profits are recognized under a more conservative "efforts-expended" method primarily based upon direct labor costs incurred as a percentage of estimated total direct labor costs. Changes in estimates for sales, costs and gross profits are recognized in the period in which they are determinable using the cumulative catch-up method. Any anticipated losses on contracts are charged to current operations as soon as they are determinable.

Research and Development

Research and development costs are charged to expense as incurred and amounted to approximately \$20,005,000 in 1999, \$21,353,000 in 1998 and \$13,259,000 in 1997.

Stock-Based Compensation

Statement of Financial Accounting Standards (SFAS) No. 123, "Accounting for Stock-Based Compensation," encourages, but does not require, companies to record compensation cost for stock-based employee compensation plans at fair value. Sequa has chosen to continue to account for stock-based compensation under Accounting Principles Board (APB) Opinion No. 25, which measures compensation cost for stock options as the excess, if any, of the quoted market price of a company's stock at the grant date over the amount an employee must pay to acquire the stock. As Sequa's stock option plans require the option price to be no less than the fair market value of the stock at the date of grant, no compensation expense is recognized for stock options granted.

Income Taxes

Income taxes are recognized during the year in which transactions enter into the determination of financial statement income, with deferred taxes provided for temporary differences between amounts of assets and liabilities recorded for tax and financial reporting purposes.

No provision has been made for US or additional foreign taxes on \$264,287,000 of undistributed earnings of foreign subsidiaries, as those earnings are intended to be permanently reinvested. Such earnings would become taxable upon the sale or liquidation of these foreign subsidiaries or upon the remittance of dividends.

Note 2. Short-Term Investments

At December 31, 1998, the \$11,475,000 short-term investment represents the market value of Sequa's investment in the common stock of a publicly traded company, which was subsequently sold in 1999 at a gain of \$1,275,000.

Note 3. Trade Receivables, Net

Sequa Receivables Corp. (SRC), a wholly owned special purpose corporation, has a Receivables Purchase Agreement extending through November 2003 under which it is able to sell without recourse up to \$120,000,000 of Sequa's eligible trade receivables through a bank sponsored facility. Under the terms of the agreement, SRC's assets will be available to satisfy its obligations to its creditors, which have security interests in certain of SRC's assets, prior to any distribution to Sequa. At December 31, 1999, trade receivables are net of \$70,000,000 of receivables sold under the agreement. In 1999, Other, net in the Consolidated Statement of Income includes discount expense of \$2,290,000 related to the sale of receivables.

Trade receivables at December 31, 1999 and 1998 are reduced by allowances for doubtful accounts of \$17,259,000 and \$15,635,000, respectively.

Note 4. Unbilled Receivables, Net

Unbilled receivables, net consist of the following:

(Amounts in thousands) At December 31,	1999	1998
Fixed-price contracts	\$29,165	\$33,923
Cost-reimbursement contracts	2,965	4,872
	\$32,130	\$38,795

Unbilled receivables on fixed-price contracts arise as revenues are recognized under the percentage-of-completion method. These amounts are billable at specified dates, when deliveries are made or at contract completion, which is expected to occur within one year. All amounts included in unbilled receivables are related to long-term contracts and are reduced by appropriate progress billings.

Unbilled amounts on cost-reimbursement contracts repreent recoverable costs and accrued profits not yet billed. These mounts are billable upon receipt of contract funding, final ettlement of indirect expense rates, or contract completion.

Allowances for estimated nonrecoverable costs are primarily o provide for losses which may be sustained on contract costs waiting funding and for the finalization of indirect expenses. Inbilled amounts at December 31, 1999 and 1998 are reduced by allowances for estimated nonrecoverable costs of \$2,060,000 and \$879,000, respectively.

lote 5. Inventories

The components of inventories are as follows:

Amounts in thousands	1999	1998
inished goods	\$ 82,010	\$ 78,000
Vork in process	88,255	78,728
law materials	150,921	105,430
ong-term contract costs	6,560	9,249
Customer deposits	(12,588)	(8,642)
	\$315,158	\$262,765

lote 6. Net Assets of Discontinued Operations

During 1991, Sequa adopted a formal plan to divest Sequa Capital's investment portfolio and classified it as a discontinued operation. As of December 31, 1999, approximately \$375,000,000 of Sequa Capital's investment portfolio had been sold, written lown or otherwise disposed of. During the same period, Sequa epaid approximately \$367,000,000 of Sequa Capital's debt. Sequa Capital's investment in leveraged leases will be liquidated over the lext 15 years as rentals are received and residual values are realzed. Debt of discontinued operations at December 31, 1999 repreents the accreted principal amount of the \$25,000,000 in proceeds eccived from the non-recourse securitization of Sequa Capital's everaged lease portfolio in 1994. The leveraged lease cash flow tream will service the payment of principal and interest until the oan is paid off.

Net assets of discontinued operations approximate net realizble value and have been classified as noncurrent. The amounts equa Capital will ultimately realize from the leveraged lease ortfolio and other investments could differ materially from nanagement's best estimates of their realizable value. A sumnary of the net assets of discontinued operations follows:

t December 31,	1999	1998
westment in leveraged leases and		
other investments	\$130,377	\$142,433
ther assets, net	1,336	970
lebt	(32,801)	(38,251)
let assets of discontinued operations	\$ 98,912	\$105,152

Note 7. Investments and Other Receivables

Sequa's investments and other receivables consist of the following items:

At December 31,	1999	1998
Investments in unconsolidated		
joint ventures	\$42,445	\$11,114
Breed pre-petition net accounts		
receivable	12,134	_
Cash surrender value of corporate-		
owned life insurance	13,004	11,227
Other receivables	6,432	5,789
	\$74,015	\$28,130

Sequa has investments in numerous unconsolidated joint ventures. ARC's investment in BAG SpA, an Italian company which manufactures and markets hybrid inflators for automotive airbags, amounted to \$18,498,000 at December 31, 1999 and \$922,000 at December 31, 1998. In 1998, Sequa owned one of three equal interests in BAG SpA along with Breed Technologies, Inc. (Breed), whose Italian subsidiary, Breed Italian Holdings S.r.l., is the venture's only customer, and a subsidiary of Fiat Avio. In April 1999, Sequa and Breed purchased equal shares from the Fiat Avio subsidiary, increasing their ownership to 50% each. In September 1999, Breed and certain of its US subsidiaries filed voluntary petitions for reorganization under Chapter 11 of the United States Bankruptcy Code. In December 1999, letters of credit issued by Sequa and Breed to guarantee BAG SpA's bank debt and other liabilities were drawn upon, in the case of Sequa in the amount of \$10,369,000. In January 2000, Sequa (through its ARC and ARC Automotive Italia subsidiaries), BAG SpA and Breed signed a contract which provides for ARC Automotive Italia to acquire certain of the assets, as well as the automotive inflator business, of BAG SpA. The closing of this transaction is subject to several significant conditions including the approval of the Bankruptcy Court overseeing Breed's reorganization and the completion of several other key agreements.

Sequa's share of the losses of the airbag joint ventures was \$1,941,000 in 1999, \$3,666,000 in 1998 and \$1,799,000 in 1997. One month of 1998 and all of 1997 included the losses of BAICO, the former domestic inflator joint venture, wholly owned since January 28, 1998.

Breed's domestic operations are supplied by ARC under the terms of a long-term contract. Under an Agreed Order and Stipulation that was entered with the Bankruptcy Court, ARC and Breed have agreed to enter into negotiations to modify the long-term supply contract. If these negotiations are unsuccessful, Breed must assume or reject the existing contract no later than May 1, 2000, unless the deadline is extended by the mutual consent of the two parties. Based on the current facts and circumstances, Sequa's man rement believes that the long-term

supply contract will be accepted in either its current or modified form and therefore that the opportunity to recover the full amount of the Breed pre-petition net accounts receivable remains. However, due to the uncertainty of the ultimate resolution of the Chapter 11 proceedings, Sequa has reclassified the receivable to long-term.

Chromalloy Gas Turbine has several 50/50 joint venture partnerships, two of which are significant. The first is Advanced Coatings Technologies (ACT), a joint venture with United Technologies Corporation, which owns and operates an electron beam ceramic coater for the application of Pratt & Whitney coatings to jet engine parts. The second, Pacific Gas Turbine (PGT), was formed in 1999 with Willis Lease Finance. PGT overhauls and tests certain jet engines. Sequa's investment in these two Gas Turbine partnerships at December 31, 1999 was \$13,373,000 and its investment in ACT at December 31, 1998 was \$1,780,000. Sequa's equity share of earnings was \$167,000 in 1999, \$1,843,000 in 1998 and \$2,306,000 in 1997.

Sequa's remaining investments in unconsolidated joint ventures contributed losses of \$1,077,000 in 1999, \$3,053,000 in 1998 and \$284,000 in 1997. The 1998 loss included a \$2,058,000 impairment write-down triggered by a partner's decision to withdraw from the business of producing advanced titanium matrix composite fibers.

Note 8. Property, Plant and Equipment, Net

Property, plant and equipment, net consists of the following:

1999	1998
\$ 37,964	\$ 41,588
231,979	223,752
832,952	790,481
54,646	37,506
1,157,541	1,093,327
(682,983)	(641,884)
\$ 474,558	\$ 451,443
	\$ 37,964 231,979 832,952 54,646 1,157,541 (682,983)

Depreciation expense was \$71,690,000 in 1999, \$74,891,000 in 1998 and \$72,443,000 in 1997.

Note 9. Indebtedness

Long-term debt is as follows:

(Amounts in thousands) At December 31,	1999	1998
Senior unsecured notes, at 9%, due 2009	\$500,000	\$ —
Senior unsecured notes, at 95/8,		
due 1999	_	138,519
Senior unsecured notes, at 83/4,		
due 2001	_	109,948
Medium-term notes, at a weighted		
average interest rate of 10.1%, due 2001	66,425	66,425
Senior subordinated notes, at 93/8%,		
due 2003	_	174,000
Capital lease obligations, at weighted		
average interest rates of 8.6% and 8.5%,		
respectively, payable in varying		
amounts through 2005	5,278	12,189
Other, at weighted average interest rates of		
3.7% and 4.5%, respectively, payable in		
varying amounts through 2004	3,511	8,263
	575,214	509,344
Less current maturities	(5,297)	(8,659)
Total long-term debt	\$569,917	\$500,685

In July 1999, Sequa issued \$500,000,000 of 9% Senior Notes due August 1, 2009. Net proceeds of \$490,903,000 from the offering were initially used to repurchase \$85,500,000 of accounts receivable previously sold under SRC's Receivables Purchase Agreement, to pay down the \$48,500,000 outstanding under the revolving credit agreement and to repurchase \$29,310,000 and \$35,665,000 principal amounts of the 8¾% and 9¾% Senior and Senior Subordinated Notes, respectively. The remainder of the net proceeds was invested in short-term interest bearing instruments.

On October 15, 1999, Sequa retired the \$138,519,000 principal amount of 95% Senior Notes then due. On December 15, 1999, the date on which the call premiums decreased by a total of \$3,925,000, Sequa retired the entire \$80,638,000 principal amount outstanding of its 83% Senior Notes and the entire \$138,335,000 principal amount outstanding of its 93% Senior Subordinated Notes. An extraordinary loss of \$5,732,000 was incurred as a result of the early retirement of debt, consisting of \$5,902,000 of retirement premiums and the \$2,917,000 write-off of associated debt issuance costs, net of a tax benefit of \$3,087,000.

In October 1997, Sequa entered into a \$150,000,000 revolving credit agreement with a group of banks that extends through October 2002. The rate of interest payable under the agreement is, at Sequa's option, a function of either the prime rate or the Eurodollar rate. The agreement requires Sequa to pay a commitment fee, which is subject to adjustment based upon the ratio of debt to EBITDA (earnings before interest, taxes, depreciation and amortization), at an initial annual rate of .275% of the

unutilized amount available under the credit line. At December 31, 1999, there were no borrowings outstanding under this facility, leaving the full \$150,000,000 of unused credit available.

The revolving credit agreement contains Sequa's most restrictive covenants which, among other matters, limit its ability to pay dividends, incur indebtedness, make capital expenditures and repurchase common and preferred stock. Sequa must also maintain a minimum net worth and certain ratios regarding interest coverage and debt to EBITDA, among other restrictions.

The aggregate maturities of total long-term debt during the next five years are \$5,297,000 in 2000, \$66,574,000 in 2001, \$6,000 in 2002, \$6,000 in 2003 and \$6,306,000 in 2004.

Note 10. Income Taxes

(Amounts in thousands)

The components of income before income taxes were:

Year ended December 31,	1999	1998	1997
Domestic	\$ 2,707	\$ 55,197	\$17,863
Foreign	46,692	52,800	23,964
	\$49,399	\$107,997	\$41,827
The income tax provision co	onsisted of:		
(Amounts in thousands)			
Year ended December 31,	1999	1998	1997
United States Federal			
Current	\$ 402	\$ 865	\$ 142
Deferred	3,972	20,281	9,283
State and local	363	5,155	1,569
Foreign	16,863	17,799	11,206
	\$21,600	\$44,100	\$22,200

The income tax provision is different from the amount computed by applying the US Federal statutory income tax rate of 35% to income before income taxes. The reasons for this difference are as follows:

Amounts in thousands Year ended December 31,	1999	1998	1997
Computed income taxes at			
statutory rate	\$17,290	\$ 37,799	\$ 14,639
State and local taxes, net of			
Federal income tax benefit	236	3,351	1,020
Goodwill amortization	3,464	3,584	3,424
Foreign subsidiaries at			
different tax rates	514	(2,586)	(1,370)
Soreign (earnings)/losses not			
(provided)/benefited	(210)	1,555	4,189
Other, net	306	397	298
	\$21,600	\$ 44,100	\$ 22,200

The deferred tax provision represents the change in deferred tax assets and liabilities from the beginning of the year to the end of the year resulting from changes in the temporary differences between the financial reporting basis and the tax basis of Sequa's assets and liabilities.

Temporary differences and carryforwards which gave rise to deferred tax assets and liabilities are as follows:

(Amounts in thousands) At December 31,	1999		
	Deferred	Deferred	
	Tax	Tax	
	Assets	Liabilities	
Accounts receivable allowances	\$ 4,648	\$ —	
Inventory valuation differences	19,919	2,882	
Recognition of income on long-term			
contracts	2,368	5,065	
Depreciation	7,945	40,784	
Lease and finance transactions	_	112,610	
Accruals not currently deductible			
for tax purposes	50,006	_	
Tax net operating loss carryforward	50,471	_	
Alternative minimum tax (AMT)			
credit carryforward	21,353	_	
Other tax credit carryforwards	9,222	_	
All other	26,366	11,267	
Subtotal	192,298	172,608	
Valuation allowance	(10,475)		
	(,,		
Total deferred taxes (Amounts in thousands)	\$181,823	\$172,608	
	\$181,823	98	
(Amounts in thousands)	\$181,823	98 Deferred	
(Amounts in thousands)	\$181,823	98 Deferred	
(Amounts in thousands)	\$181,823	98 Deferred Tax	
(Amounts in thousands) At December 31,	\$181,823	98 Deferred Tax Liabilities	
(Amounts in thousands) At December 31, Accounts receivable allowances	\$181,823 Deferred Tax Assets \$ 3,472	Deferred Tax Liabilities	
(Amounts in thousands) At December 31, Accounts receivable allowances Inventory valuation differences	\$181,823 Deferred Tax Assets \$ 3,472	Deferred Tax Liabilities	
(Amounts in thousands) At December 31, Accounts receivable allowances Inventory valuation differences Recognition of income on long-term	\$181,823 Deferred Tax Assets \$ 3,472 23,916	Deferred Tax Liabilities \$ — 4,002	
(Amounts in thousands) At December 31, Accounts receivable allowances Inventory valuation differences Recognition of income on long-term contracts	\$181,823 Deferred Tax Assets \$ 3,472 23,916 4,497	Deferred Tax Liabilities \$ — 4,002	
(Amounts in thousands) At December 31, Accounts receivable allowances Inventory valuation differences Recognition of income on long-term contracts Depreciation	\$181,823 Deferred Tax Assets \$ 3,472 23,916 4,497	Deferred Tax Liabilities \$ — 4,002 4,522 43,294	
(Amounts in thousands) At December 31, Accounts receivable allowances Inventory valuation differences Recognition of income on long-term contracts Depreciation Lease and finance transactions	\$181,823 Deferred Tax Assets \$ 3,472 23,916 4,497	Deferred Tax Liabilities \$ — 4,002 4,522 43,294	
(Amounts in thousands) At December 31, Accounts receivable allowances Inventory valuation differences Recognition of income on long-term contracts Depreciation Lease and finance transactions Accruals not currently deductible for	Deferred Tax Assets \$ 3,472 23,916 4,497 9,934	Deferred Tax Liabilities \$ — 4,002 4,522 43,294	
(Amounts in thousands) At December 31, Accounts receivable allowances Inventory valuation differences Recognition of income on long-term contracts Depreciation Lease and finance transactions Accruals not currently deductible for tax purposes Tax net operating loss carryforward Alternative minimum tax (AMT) credit	\$181,823 Deferred Tax Assets \$ 3,472 23,916 4,497 9,934 — 68,378 47,318	Deferred Tax Liabilities \$ — 4,002 4,522 43,294	
Accounts receivable allowances Inventory valuation differences Recognition of income on long-term contracts Depreciation Lease and finance transactions Accruals not currently deductible for tax purposes Tax net operating loss carryforward Alternative minimum tax (AMT) credit carryforward	\$181,823 Deferred Tax Assets \$ 3,472 23,916 4,497 9,934 — 68,378 47,318 24,733	Deferred Tax Liabilities \$ — 4,002 4,522 43,294	
(Amounts in thousands) At December 31, Accounts receivable allowances Inventory valuation differences Recognition of income on long-term contracts Depreciation Lease and finance transactions Accruals not currently deductible for tax purposes Tax net operating loss carryforward Alternative minimum tax (AMT) credit carryforward Other tax credit carryforwards	\$181,823 Deferred Tax Assets \$ 3,472 23,916 4,497 9,934 — 68,378 47,318 24,733 8,209	Deferred Tax Liabilities \$ - 4,002 4,522 43,294 120,634	
Accounts receivable allowances Inventory valuation differences Recognition of income on long-term contracts Depreciation Lease and finance transactions Accruals not currently deductible for tax purposes Tax net operating loss carryforward Alternative minimum tax (AMT) credit carryforward	\$181,823 Deferred Tax Assets \$ 3,472 23,916 4,497 9,934 — 68,378 47,318 24,733	Deferred Tax Liabilities \$ — 4,002 4,522 43,294	
(Amounts in thousands) At December 31, Accounts receivable allowances Inventory valuation differences Recognition of income on long-term contracts Depreciation Lease and finance transactions Accruals not currently deductible for tax purposes Tax net operating loss carryforward Alternative minimum tax (AMT) credit carryforward Other tax credit carryforwards	\$181,823 Deferred Tax Assets \$ 3,472 23,916 4,497 9,934 — 68,378 47,318 24,733 8,209	Deferred Tax Liabilities \$ - 4,002 4,522 43,294 120,634	
Accounts receivable allowances Inventory valuation differences Recognition of income on long-term contracts Depreciation Lease and finance transactions Accruals not currently deductible for tax purposes Tax net operating loss carryforward Alternative minimum tax (AMT) credit carryforward Other tax credit carryforwards All other	\$181,823 Deferred Tax Assets \$ 3,472 23,916 4,497 9,934 68,378 47,318 24,733 8,209 22,421	Deferred Tax Liabilities \$ — 4,002 4,522 43,294 120,634 — — — — — — — — ————————————————————	

Sequa has had an issue with the Internal Revenue Service (IRS) involving the 1989 restructuring of two subsidiaries. While management believes its tax position in this matter was appropriate, it has taken the conservative position of providing reserves to cover an adverse outcome. At December 31, 1999, the net amount involved was approximately \$59,000,000, composed of the potential liability associated with the restructuring and related tax issues; interest expense, net of tax benefit, from the date of the resulting tax refund; and deferred tax assets for portions of tax loss and credit carryforwards which could be utilized in a settlement. In October 1998, Sequa made a deposit of \$24,000,000 with the IRS against the expected liability for additional tax and interest that may be assessed against Sequa related to certain of these tax matters. The deposit stopped the running of interest with respect to the amounts deposited. Management has been in discussions with the IRS on these matters for several years and recently reached an informal agreement settling this matter with the IRS. There are several steps involved in finalizing this agreement, including the approval by the Joint Committee on Taxation of the US Congress. If the agreement is approved, no significant additional tax or interest will be paid or refunded. Management anticipates that the agreement with the IRS will be finalized in the next 12 months, at which time approximately \$35,000,000, representing the reversal of reserves no longer required, would be recorded as income through a reduction of the income tax provision.

At December 31, 1999, current taxes payable of \$49,078,000 are netted against \$52,677,000 of net current deferred tax assets (included in other current assets in the accompanying Consolidated Balance Sheet) and net noncurrent deferred tax liabilities of \$43,462,000 are presented as a single amount in the Consolidated Balance Sheet. At December 31, 1998, net current deferred tax assets of \$58,261,000 are netted against \$74,760,000 of current taxes payable, and net noncurrent deferred tax liabilities of \$40,422,000 are presented as a single amount in the Consolidated Balance Sheet.

A valuation allowance has been established to reduce the deferred tax asset recorded for certain tax credits that may expire unutilized in 2000 through 2018 and to reduce the tax benefit recorded for a portion of the cumulative losses of Sequa's French subsidiaries. The AMT credit carryforward does not expire and can be carried forward indefinitely. Sequa has a domestic tax net operating loss carryforward of \$144,203,000 at December 31, 1999 that expires in 2008 through 2019.

Although Sequa experienced book and tax domestic losses prior to 1997, Sequa has been profitable domestically on a book basis since 1997 and on a tax basis for 1997 and 1998, with an estimated tax loss for 1999. Management believes that its domestic net operating loss carryforwards will be utilized before their expiration through future reversals of existing taxable temporary differences and future earnings. The domestic losses prior to 1997 were largely attributable to loss provisions recorded during 1991 and 1992 for Sequa Capital, a discontinued leasing unit, and operating losses incurred by Gas Turbine from 1993 through 1995. Sequa has

divested itself of a significant portion of Sequa Capital's assets and has decreased interest expense by significantly reducing debt levels that existed during the Sequa Capital loss years. In addition, Gas Turbine has been profitable since 1996, due principally to decreased litigation costs and rising demand from the commercial airline market for jet engine component repair.

Sequa's ability to generate the expected amounts of domestic taxable income from future operations is dependent upon general economic conditions; the state of the airline industry and other major markets; the resolution of the uncertainties in ARC's airbag inflator business; competitive pressures on sales and margins; and other factors beyond management's control. There can be no assurance that Sequa will meet its expectations for future domestic taxable income in the carryforward period. However, management has considered the above factors in reaching the conclusion that it is more likely than not that future domestic taxable income will be sufficient to fully realize the net domestic deferred tax assets at December 31, 1999. The amount of the deferred tax assets considered realizable, however, could be reduced in the near term if estimates of future domestic taxable income during the carryforward period are reduced.

Note 11. Accrued Expenses

Sequa's accrued expenses consist of the following items:

(Amounts in thousands) At December 31,	1999	1998
Salaries and wages	\$ 41,430	\$ 47,825
Interest	20,574	5,171
Current portion of environmental		
liabilities	6,000	10,000
Current portion of self-insurance		•
liabilities	4,800	4,800
Current portion of pension liabilities	938	1,040
Warranty	14,561	18,806
Customer rebates	12,188	10,224
Legal fees	2,302	3,314
Royalties	7,757	9,474
Insurance	5,766	6,075
Taxes other than income	4,360	5,046
Other	45,516	53,025
	\$166,192	\$174,800

Note 12. Financial Instruments

Sequa utilizes forward foreign exchange contracts and purchased foreign currency options to reduce exposure to foreign currency fluctuations on certain existing assets and liabilities, firm commitments and anticipated transactions. To a lesser extent, Sequa also utilizes natural gas swap agreements to convert a portion of certain operations' estimated natural gas requirements to fixed rates. Sequa's accounting policies with respect to these financial instruments are described in Note 1. At December 31, 1999, Sequa had

forward foreign exchange contracts outstanding with notional amounts of \$105,539,000 and natural gas swaps outstanding with notional amounts of \$516,000. At December 31, 1998, Sequa had forward foreign exchange contracts outstanding with notional amounts of \$56,605,000 and natural gas swaps outstanding with notional amounts of \$3,779,000.

The following table presents the carrying amounts and fair values of Sequa's derivative and non-derivative financial instruments:

(Amounts in thousands)

At December 31,	1	999	1	998
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Assets				
Cash and cash				
e quivalents	\$ 68,164	\$ 68,164	\$ 84,889	\$ 84,889
Short-term investments	_	_	11,475	11,475
Forward foreign				
exchange contracts	2,007	2,007	35	35
Natural gas swaps	_	44	_	_
Liabilities				
Current and long-term				
debt	575,214	558,710	509,344	521,120
Forward foreign			·	,
exchange contracts	590	590	815	815
Natural gas swaps				175

The fair value of cash and cash equivalents approximates the carrying amount due to the short maturity of those instruments. The fair value of short-term investments and Sequa's debt is primarily based upon quoted market prices of publicly traded securities. The fair value of forward foreign exchange contracts is based on year-end exchange rates. The fair value of Sequa's natural gas swap agreements is based upon the amounts that Sequa could settle with the counterparties to terminate the natural gas swaps outstanding at December 31, 1999 and 1998.

At December 31, 1999, Sequa was contingently liable for outstanding letters of credit, not reflected in the accompanying consolidated financial statements, in the aggregate amount of \$27,642,000. Sequa is not currently aware of any existing conditions that would cause risk of loss relative to outstanding letters of credit.

Note 13. Pension Plans and Postretirement Benefits

Sequa sponsors various defined benefit pension plans covering certain hourly and most salaried employees. The defined benefit plans provide benefits based primarily on the participants' years of service and compensation. Sequa's pension plans are funded to accumulate sufficient assets to provide for accrued benefits. Sequa also has several unfunded supplemental executive retirement plans for certain key executives. These plans provide for benefits that supplement those provided by Sequa's other retirement plans.

The status of all of Sequa's significant domestic and foreign defined benefit plans was as follows:

	Funded I Benefit Pens		Supp	ifunded blemental ment Plans
(Amounts in thousands) At December 31,	1999	1998	1999	1998
Change in Benefit				
Obligation				
Benefit obligation at				
beginning of year	\$315,055	\$265,442 \$		\$ 15,050
Service cost	12,320	10,005	(47)	(76)
Interest cost	20,056	19,208	1,263	1,121
Actuarial (gain) loss	(32,152)	34,255	(320)	1,716
Plan amendments	361	2,767	400	186
Curtailments	(214) 802	(1,401) 707	126	24 5
Participant contributions		(16,136)	(420)	(205)
Benefits paid Translation adjustment	(16,716) (1,260)	208	(428)	(295)
	(1,200)	208	<u> </u>	
Benefit obligation at end of year	\$298,252	\$315,055 \$	18,541	\$ 17,947
Change in Plan Assets Fair value of plan assets	£205.470	#202 00F #		c
at beginning of year Actual return on plan	\$305,179	\$292,085 \$	_	\$ —
assets	50,077	24,825		_
Contributions	3,598	4,160	428	295
Benefits paid	(16,716)	(16,136)	(428)	(295)
Translation adjustment	(1,493)	245		
Fair value of plan assets at end of year	\$340,645	\$305,179 \$	_	s –
Reconciliation of			······	-
Funded Status				
Funded status Unrecognized net	\$ 42,393	\$ (9,876) \$	(18,541)	\$(17,947)
actuarial (gain) loss Unrecognized prior	(43,572)	12,032	(66)	2 58
service cost Unrecognized transition	4,834	5,475	1,438	1,649
obligation	(1,009)	(1,745)	_	_
Translation adjustment	_	(21)	_	_
Net amount recognized	\$ 2,646	\$ 5,865 \$	(17,169)	\$(16,040)
Included in:				
Deferred charges	\$ 10,759	\$ 10,626 \$	· —	s —
Accrued expenses	(938)	(1,040)	_	_
Other noncurrent	(-55)	1-/0 .01		
liabilities	(7,175)	(3,721)	(17,169)	(16,040)
Not amount recognized				
Net amount recognized	\$ 2,646	\$ 5,865 \$	(17,169)	\$(16,0

The funded plans' assets consist primarily of listed common stock, pooled equity funds, index funds, debt instruments and real estate funds. At December 31, 1999 and 1998, the plans' assets included Sequa stock with market values of \$28,926,000 and \$32,109,000, respectively.

Assumptions used in accounting for all of Sequa's significant domestic and foreign defined benefit plans are:

At December 31,	1999	1998	1997
Discount rate for obligations	7.5%	6.5%	7.25%
Rate of increase in compensation levels	4.5%	4.5%	4.5%
Expected long-term rate of return on			
plan assets	9.0%	9.0%	9.0%

The periodic net pension cost of all of Sequa's significant domestic and foreign defined benefit plans includes the following components:

	Funded Defined Benefit Pension Plans		
(Amounts in thousands)			
Year ended December 31,	1999	1998	1997
Service cost	\$ 12,320	\$10,005	\$ 7,886
Interest cost	20,056	19,208	17,966
Expected return on assets	(26,718)	(25,847)	(21,588)
Amortization of net transition amount	(770)	(730)	(734)
Amortization of prior service cost	763	929	733
Recognized net (gain) loss	-	(353)	3
Net periodic pension cost	5,651	3,212	4,266
Loss (gain) due to curtailments	240	(961)	402
Total amount reflected in earnings	\$ 5,891	\$ 2,251	\$ 4,668

	Unfunded Supplemental Retirement Plans			
(Amounts in thousands) Year ended December 31,	1999	1998	1997	
Service cost	\$ (47)	\$ (76)	\$ 79	
Interest cost	1,263	1,121	989	
Amortization of prior service cost	210	211	302	
Recognized net loss (gain)	5		(49)	
Net periodic pension cost	1,431	1,256	1,321	
Loss due to curtailments	126	245	_	
Total amount reflected in earnings	\$ 1,557	\$ 1,501	\$ 1,321	

Employees not covered by the defined benefit plans discussed above generally are covered by multiemployer plans as part of collective bargaining agreements or by small local plans. Pension expense for these multiemployer plans and small local plans was not significant in the aggregate.

Sequa's domestic non-union employees are eligible to participate in Sequa's 401(k) plans. Expenses recorded for Sequa's matching contributions under these plans were \$5,805,000 in 1999, \$5,335,000 in 1998 and \$4,991,000 in 1997.

Postretirement health care and other insurance benefits are provided to certain retirees. The actuarial and recorded liabilities for these postretirement benefits, none of which have been funded, are as follows:

	Other Postretirement Benefits		
[Amounts in thousands]			
At December 31,	1999	1998	
Change in Benefit Obligation			
Benefit obligation at beginning of year	\$3,027	\$2,306	
Service cost	223	184	
Interest cost	176	157	
Actuarial (gain) loss	(702)	685	
Plan amendments	304	_	
Participant contributions	192	174	
Benefits paid	(560)	(479)	
Benefit obligation at end of year	\$2,660	\$3,027	

Net periodic postretirement benefit cost includes the following components:

	Other Postretirement Benefits		
(Amounts in thousands) Year ended December 31,	1999	1998	1997
Service cost	\$ 223	\$ 184	\$ 142
Interest cost	176	157	189
Amortization of net loss	145	123	159
Amortization of unrecognized prior			
service cost	(127)	(164)	(151)
Amortization of transition obligation	77	77	77
Net periodic postretirement benefit cost	\$ 494	\$ 377	\$ 416

The accumulated postretirement benefit obligation was determined using a discount rate of 7.5% at December 31, 1999, 6.5% at December 31, 1998 and 7.25% at December 31, 1997 and an average health care cost trend rate of approximately 8.25%, progressively decreasing to approximately 5.5% in the year 2007 and thereafter.

A one percentage point change in the assumed health care cost trend rate would not have a material effect on the postretirement benefit obligation or on the aggregate service cost and interest cost components.

Note 14. Capital Stock

Sequa's capital stock consists of Class A and Class B common stock and \$5.00 cumulative convertible preferred stock. Holders of Class A common stock have one vote per share; holders of Class B common stock have ten votes per share; and preferred stockholders have one vote per share. Holders of Class B common stock are entitled to convert their shares into Class A common stock at any time on a share-for-share basis. Each share of \$5.00 cumulative convertible preferred stock is convertible into 1.322 shares of Class A common stock. The preferred stock is redeemable, at the option of Sequa, at \$100 per share.

On May 6, 1999, stockholders voted affirmatively to amend the Sequa Corporation Restated Certificate of Incorporation, as amended, to increase the number of shares of Class A common stock that Sequa is authorized to issue to 50,000,000 from 25,000,000 and to increase the number of shares of Class B common stock that Sequa is authorized to issue to 10,000,000 from 5,000,000. The additional authorized shares improve Sequa's flexibility in responding to future business needs and opportunities, including possible future acquisitions, financings, stock dividends and other corporate purposes. However, Sequa has no present plans to issue the additional authorized shares, except pursuant to its benefit plans and for its convertible securities.

At December 31, 1999, 4,325,497 shares of Sequa Class A common stock were reserved for the conversion of preferred and Class B common stock, and for the exercise of outstanding stock options. The following table summarizes shares held in treasury:

At December 31,	1999	1998	1997
Class A common stock	240,032	215,104	512,643
Class B common stock	397,283	397,283	397,283
Preferred stock	383,990	383,990	186,690

During 1999, 34,800 shares of Class A common stock were purchased for treasury at a cost of \$1,670,000. During 1998, 286,199 shares of Class A common stock were issued out of treasury in exchange for 197,300 shares of cumulative convertible preferred stock. The average exchange ratio was 1.45 shares of Class A common stock for each share of preferred.

During the years ended December 31, 1999 and 1998, no dividends were declared on Sequa Class A common shares or Class B common shares.

Note 15. Stock Options

Sequa has two incentive and nonqualified stock option plans in effect: the 1988 Stock Option Plan and the 1998 Stock Option Plan. These plans provide for the granting of options of Sequa's Class A common stock to key employees. The option price per share may not be less than the fair market value of the Class A common stock on the date the option is granted, and the maximum term of an option may not exceed ten years. Options generally vest in three equal annual installments, commencing on the first anniversary of

the grant date. Under the terms of the 1998 Stock Option Plan, Sequa is authorized to grant to officers and other key employees options to purchase up to a total of 500,000 shares of Class A common stock. Authority to grant options under the 1988 Stock Option Plan expired during 1998. The following table summarizes the activity related to Sequa's stock options for the three years ended December 31, 1999:

	Options	Weighted Average Price
Outstanding at December 31, 1996	232,345	\$32.02
Granted	16,000	\$50.38
Expired or Cancelled	(3,010)	\$32.25
Exercised	(104,237)	\$32.31
Outstanding at December 31, 1997	141,098	\$33.91
Granted	428,000	\$58.07
Expired or Cancelled	(13,200)	\$40.05
Exercised	(103,531)	\$32.36
Outstanding at December 31, 1998	452,367	\$56.95
Granted	25,750	\$58.02
Expired or Cancelled	(12,833)	\$55.72
Exercised	(15,300)	\$32.43
Outstanding at December 31, 1999	449,984	\$57.88
Exercisable at		
December 31, 1997	120,631	\$31.88
December 31, 1998	17,000	\$33.54
December 31, 1999	143,134	\$ 57.68
Available for future grant	65,083	

Under the provisions of APB Opinion No. 25, Sequa has recognized no compensation expense for stock options granted. Under SFAS No. 123, compensation cost is measured at the grant date based on the value of the award and is recognized over the vesting period. Had compensation cost for Sequa's stock option plans been determined under SFAS No. 123, Sequa's net earnings and earnings per share would have been affected as shown in the following pro forma presentation:

(Amounts in thousands, except per share data) Year ended December 31,		1999		1998		1997
Net Income						
As reported	\$2	2,067	\$6	3,897	\$1	9,627
Pro forma	2	0,722	6	3,518	1	9,572
Basic earnings per share						
As reported	\$	1.93	\$	6.01	\$	1.66
Pro forma		1.80		5.97		1.66
Diluted earnings per share						
As reported	\$	1.93	\$	5.87	\$	1.66
Pro forma		1.80		5.83		1.65

The fair value of each option is estimated on the date of grant using he Black-Scholes option pricing model. The model's weighted iverage assumptions for 1999 were: risk free interest rate of 6.5%, expected life of 4 years, expected volatility of 29.2% and expected lividend yield of 0%. The model's assumptions for prior years were: risk free interest rate of 4.55%, expected life of 4 years, expected volatility of 22.2% and expected dividend yield of 0%.

Note 16. Accumulated Other Comprehensive Income (Loss) The accumulated balances for each classification of other comprenensive income (loss) are as follows:

Amounts in thousands) At December 31,	1999	1998
Cumulative translation adjustment Jurealized loss on marketable	\$(16,453)	\$ 473
securities, net of tax benefits	_	(1,489)
	\$(16,453)	\$(1,016)

Note 17. Acquisitions and Dispositions

in February 1999, Sequa purchased Thermo Wisconsin, a supplier to the US printing and process industries of continuous process lryers, emission control equipment, web and air handling systems and other specialty products, for \$13,593,000. The operations of Thermo Wisconsin have been combined with Sequa's MEGTEC subsidiary. In June 1999, Sequa purchased Germany-based Schoeller & Co. GmbH, a supplier of automotive cigarette lighters, power outlets and other automotive products for \$10,352,000. In 1999, Sequa also made a small niche acquisition of a product line in the amount of \$1,882,000 and combined it with MEGTEC. These acquisitions have been accounted for as purchases; accordingly, operating results are included in the Consolidated Statement of Income from the dates of purchase. Pro forma combined results of operations giving effect to these acquisitions would not vary materially from historical results.

In October 1998, Sequa sold substantially all of the business and operating assets of Sequa Chemicals, its US-based chemicals operation, for net cash proceeds of \$107,275,000. The sale resulted in a pre-tax gain of \$49,867,000. In 1999, Sequa recorded income of \$2,225,000 related to the adjustment of the gain on the sale of Sequa Chemicals upon final settlement with the purchaser. Sequa Chemicals had sales of \$74,004,000 in 1998 and \$82,293,000 in 1997 and operating income of \$3,082,000 in 1998 and \$8,004,000 in 1997. The consolidated financial statements and accompanying notes reflect the operating results of Sequa Chemicals as a continuing operation in the Other Products segment. Also during 1998, Sequa sold a Gas Turbine manufacturing facility in the United Kingdom for net cash proceeds of \$14,058,000. The sale resulted in a pre-tax gain of \$6,675,000.

In January 1998, Sequa purchased the remaining 50% interest in a domestic airbag inflator joint venture (BAICO) that was not previously owned for \$22,736,000. Sequa assumed \$25,000,000 of

BAICO's debt and repaid it during 1998. In 1998, Sequa also purchased an Italian specialty chemicals distribution unit, the liquid propellant rocket motor product line of Royal Ordnance and made other small niche acquisitions for purchase prices aggregating \$17,926,000. These acquisitions have been accounted for as purchases; accordingly, operating results are included in the Consolidated Statement of Income from the dates of purchase. Pro forma combined results of operations giving effect to these acquisitions would not vary materially from historical results.

In December 1997, Sequa sold Northern Can Systems, a supplier of metal lids, for cash proceeds of \$28,178,000. No pre-tax gain or loss resulted from the sale. In 1997, Northern Can Systems had sales of \$32,904,000 and operating income of \$1,781,000. The consolidated financial statements and accompanying notes reflect the operating results of Northern Can Systems as a continuing operation in the Other Products segment.

In August 1997, Sequa purchased TEC Systems, a manufacturer of dryers and environmental equipment for paper, printing and other industrial applications, for \$18,839,000. In May 1997, Sequa purchased Sedgefield Specialties, a chemicals supplier to the textile industry, for \$13,853,000 and merged it into Sequa Chemicals. These acquisitions have been accounted for as purchases; accordingly, operating results are included in the Consolidated Statement of Income from the dates of purchase. Pro forma combined results of operations giving effect to these acquisitions would not vary materially from historical results.

Note 18. Other, Net
Other, net includes the following income (expense) items:

(Amounts in thousands) Year ended December 31,	1999		1998	1997
Gain on sale of assets, net	\$ 3,898	\$	82	\$ 2,465
Demutualization of an issuer of				
corporate-owned life insurance	2,723		_	
Adjustment to gain on sale of				
Sequa Chemicals	2,225		_	_
Collection of note receivable				
previously written off	1,600			_
Gain on sale of short-term				
investments	1,275			_
Income on cash surrender value of				
corporate-owned life insurance	1,047		986	1,321
Discount expense on sale of				
receivables	(2,290)		_	_
Amortization of capitalized				
debt issuance costs	(1,487)	(1	(220,1	(1,381)
Letters of credit and commitment				
fees	(1,104)		(901)	(1,596)
Uninsured loss		(2	2,000}	_
Other	1,422		(171)	334
	\$ 9,309	\$(3	3,224)	\$ 1,143

Note 19. Operating Leases

Certain businesses of Sequa utilize leased premises or equipment under noncancelable agreements having initial or remaining terms of more than one year. The majority of the real property leases require Sequa to pay maintenance, insurance and real estate taxes. Rental expense totaled \$20,239,000, \$17,260,000 and \$17,083,000 in 1999, 1998 and 1997, respectively.

At December 31, 1999, future minimum lease payments under noncancelable operating leases are as follows:

2000	\$20,173
2001	16,440
2002	11,673
2003	8,213
2004	4,694
After 2004	15,591
	\$76,784

Note 20. Earnings Per Share

Basic earnings per share (EPS) for each of the respective years have been computed by dividing the net earnings, after deducting dividends on cumulative convertible preferred stock, by the weighted average number of common shares outstanding during the year.

Diluted EPS reflects the potential dilution that could occur if each share of the cumulative convertible preferred stock outstanding were converted into 1.322 shares of Class A common stock and the outstanding options to purchase shares of Class A common stock were exercised.

The computation of basic and diluted EPS is as follows:

(Amounts in thousands, except per share data) Year ended December 31,	1999		1998		1997
Income from continuing operations Less: Preferred dividends	\$ 27,799 (2,0 6 4)	\$	63,897 (2,173)	\$	19,627 (3,051)
Income available to common stock—basic Extraordinary loss	25,735 (5,732)		61,724		16,576 —
Net income available to common stock—basic Convertible preferred stock dividend requirements	20,003	ı	61,724 2,173	·	16,576
Net income available to common stock—diluted	\$ 20,003	\$	63,897	\$	16,576
Weighted average number of common shares outstanding—basic Conversion of convertible preferred stock	10,367 —		10 ,27 5 599		9,967 —
Exercise of stock options	4		20		47
Weighted average number of common shares outstanding—diluted	10,371		10,894		10,014
Basic earnings per share Income before extraordinary item Extraordinary loss Net income	\$ 2.48 (.55) 1.93	\$	6.01	\$	1.66
Diluted earnings per share Income before extraordinary item Extraordinary loss	\$ 2.48 (.55)	\$	5.87	\$	1.66
Net income	\$ 1.93	\$	5.87	\$	1.66

The conversion of each share of preferred stock into 1.322 shares of common stock was not included in the computation of diluted earnings per share for 1999 and 1997 because inclusion would have had an anti-dilutive effect on EPS.

Note 21. Supplemental Cash Flow Information

Net cash provided by discontinued operations primarily represents the net proceeds from the divestiture and run-off of Sequa Capital's investment portfolio.

Selected noncash activities and cash payments were as follows:

(Amounts in thousands) Year ended December 31,	1999	1998	1997
Noncash activities: Acquisitions of businesses:			
Fair value of assets acquired	\$37,474	\$ 85,572	\$58,804
Cash paid	25,827	40,662	36,058
Liabilities assumed	11,647	44,910	22,746
Interest paid	45,367	52,195	50,350

Note 22. Segment Information and Geographic Data

Sequa is a diversified industrial company that produces a broad range of products in five operating segments: Aerospace, Propulsion, Metal Coating, Specialty Chemicals and Other Products.

The Aerospace segment consists solely of Sequa's largest operating unit, Chromalloy Gas Turbine Corporation. Gas Turbine repairs and manufactures gas turbine engine components, principally for domestic and international airlines, original equipment manufacturers and the US military.

The Propulsion segment consists solely of ARC, which manufactures solid rocket propulsion systems for use primarily in tactical military weapons sold to the US Government, automotive airbag inflators and inflator components and liquid propellant motors for use on commercial satellites.

The Metal Coating segment consists solely of Precoat Metals, which applies polymer coatings to continuous steel and aluminum coil for the nationwide building products market, the container market and diverse markets for manufactured products.

The Specialty Chemicals segment consists solely of Warwick International, which produces bleach activators for powdered laundry detergent products sold principally in European markets and distributes specialty chemicals in Europe and South Africa through a network of distribution companies.

The Other Products segment is composed of four ongoing businesses: MEGTEC Systems, Sequa Can Machinery, Casco Products, and the Men's Apparel unit. MEGTEC Systems provides auxiliary press equipment for web offset printing as well as dryers and emission control equipment for the international industrial, paper and printing markets. Sequa Can Machinery produces high speed equipment to form and decorate two-piece metal cans for the worldwide container industry. Casco Products manufactures cigarette lighters, power outlets and electronic monitoring devices primarily for North American and European automobile manufacturers. The Men's Apparel unit designs and manufactures men's formalwear and accessories for the North American market. This segment also includes the results of two operations which have been divested. Sequa Chemicals, which produces a broad range of chemicals primarily for domestic textile, paper, graphic arts and building products markets, was sold in October 1998. Northern Can Systems, which produces easy-open steel lids for the domestic and international food processing industry, was sold in December 1997.

The accounting policies of the reportable segments are the same as those described in Note 1. Segment information amounts presented are the same measures reported internally to management for purposes of making decisions about allocating resources to the segments and assessing their performance. Operating profit, the measure of profit reported in the segment information, represents income before income taxes, interest, equity in unconsolidated joint ventures and other income (expense). The expenses and assets attributable to corporate activities are not allocated to the operating segments. Assets of corporate activities include cash and cash equivalents, investments and net assets of discontinued operations.

See page 19 for sales, operating income, total assets, capital expenditures, and depreciation and amortization by business segment. Geographic data is presented below:

Geographic Data

Sales are attributable to countries based on location of the customer. Long-lived assets, which include property, plant and equipment and goodwill, are based on physical location.

(Amounts in thousands) Year ended December 31,	1999	1998	1997
Sales			
United States	\$ 933,479	\$1,027,774	\$ 916,796
United Kingdom	92,758	106,526	103,956
Italy	88,048	95,335	54,185
France	83,380	82,577	79,718
Japan	56,340	50,651	24,095
Germany	55,658	52,087	50,041
Spain	42,518	36,383	34,538
Canada	39,950	31,595	39,465
Other countries	307,398	319,465	292,331
Total	\$1,699,529	\$1,802,393	\$1,595,125
At December 31,	1999	1998	1997
Long-lived Assets			
United States	\$ 661,516	\$ 640,103	\$ 628,531
United Kingdom	73,641	77,336	75,723
Other countries	53,658	41,055	36,766
Total	\$ 788,815	\$ 758,494	\$ 741,020

No single commercial customer accounted for more than 10% of sales in any year. The largest single contract with any one US Government agency accounted for approximately 1% of sales in 1999, 1998 and 1997. Prime and subcontracts with all government agencies accounted for approximately 10% of sales in 1999, 9% of sales in 1998 and 10% of sales in 1997.

Note 23. Contingencles

Sequa is involved in a number of claims, lawsuits and proceedings (environmental and otherwise) that arose in the ordinary course of business. Other litigation pending against Sequa involves allegations that are not routine and include, in certain cases, compensatory and punitive damage claims. Included in this class of litigation is an action commenced in July 1995 by United Technologies Corporation (UTC), the parent of Pratt & Whitney (PW), against Chromalloy Gas Turbine Corporation (Chromalloy) in federal district court in Delaware (the District Court). UTC sought damages and injunctive relief based on alleged breaches of certain license agreements, infringement of patents and misuse of PW intellectual property. Chromalloy answered the complaint denying UTC's claims, and Chromalloy filed counterclaims against UTC seeking damages and injunctive relief based on UTC's

breaches of license agreements and other related matters. The District Court decided to try the case in several different proceedings because of the number and complexity of the claims. For a detailed report on earlier developments in this matter, see Sequa's Report on Form 10-K for the years ended December 31, 1998 and December 31, 1997, and its Report on Form 10-Q for the quarter ended September 30, 1999.

The most recent significant events and the current status follow. On August 14, 1998, the District Court issued a Memorandum Opinion and Order finding that UTC breached the parties' 1985 Repair Agreement (the Repair Approval Claim). The District Court ordered UTC to provide Chromalloy with updated technical data and to approve Chromalloy to repair components for the most advanced models of several PW large engine families. On a separate claim relating to the Most Favored Nations clause (the MFN Claim), the District Court held that UTC had violated the same agreement by failing to notify Chromalloy of the more favorable licensing terms, including lower royalty rates, that PW negotiated with other component repair suppliers. The District Court did not rule on the damages and other remedies being sought on that claim. No trial date has been set for the remainder of the MFN Claim.

UTC appealed the District Court's August 14, 1998 Order to the Court of Appeals for the Federal Circuit (the Court of Appeals). On August 25, 1999, the Court of Appeals held that the District Court had erred in holding that res judicata (or what may be referred to as claim preclusion) does not apply to Chromalloy's Repair Approval Claim. (UTC earlier had moved for summary judgment on that basis.) Based on its res judicata ruling, the Court of Appeals vacated the District Court's August 14, 1998 Order. Chromalloy's Petition for Rehearing was denied by the Court of Appeals on November 4, 1999. Because it is not clear what part of Chromalloy's Repair Approval Claim is impacted by the Court of Appeals' August 25, 1999 decision, the precise effect of that decision will not be known until further proceedings are held in the District Court.

All other claims in this case have been dismissed by the District Court or resolved by the parties, except for Chromalloy's claim under a ceramic coating license agreement that was tried in July 1998 (the Ceramic Approval Claim). The District Court has not yet ruled on that claim. On December 3, 1999, UTC renewed its motion for summary judgment on the MFN Claim and the Ceramic Approval Claim. Those motions are pending. It would be

premature at this stage for management to make an evaluation of the likely outcome of Chromalloy's remaining claims.

On August 29, 1995, Chromalloy filed suit in Texas state court against UTC seeking damages and injunctive relief for violations of the Texas Free Enterprise and Antitrust Act. UTC filed counterclaims against Chromalloy for alleged breach of contract and unfair competition. For a detailed report on earlier developments in this matter, see Sequa's Reports listed in the first paragraph of this Note. The only remaining issue in this case is Chromalloy's appeal of the Texas court's denial of injunctive relief. On October 14, 1998, the San Antonio Court of Appeals issued its decision affirming the trial court's denial of injunctive relief. On Chromalloy's request for reconsideration, the Court of Appeals reaffirmed its decision in an opinion dated November 17, 1999, which was later withdrawn because of an error in the opinion and replaced with an opinion dated November 24, 1999. Chromalloy disagrees with the decision and on March 10, 2000, filed a Petition for Review to the Texas Supreme Court.

Chromalloy's divisions compete for turbine engine repair business with a number of other companies, including the manufacturers of jet engines (OEMs). The OEMs generally have obligations (contractual and otherwise) to approve vendors to manufacture components for their engines and/or perform repair services on their engines and components. Chromalloy has a number of such approvals, including licensing agreements, which allow it to manufacture and repair certain components of flight engines. The loss of a major OEM's approval to manufacture or repair components for the OEM's engines could have an adverse effect on Chromalloy, although management believes it has certain actions available to it to mitigate this effect.

The ultimate legal and financial liability of Sequa in respect to all claims, lawsuits and proceedings referred to above cannot be estimated with any certainty. However, in the opinion of management, based on its examination of these matters, its experience to date and discussions with counsel, the ultimate outcome of these legal proceedings, net of liabilities already accrued in Sequa's Consolidated Balance Sheet, is not expected to have a material adverse effect on Sequa's consolidated financial position, although the resolution in any reporting period of one or more of these matters could have a significant impact on Sequa's results of operations for that period.

Note 24. Quarterly Financial Information (Unaudited)

(Amounts in thousands, except per share data) 1999 Quarter ended	V	March 31		June 30		Sept. 30		Dec. 31		Year
Sales	\$4	07,266	\$4	133,180	\$4	16,371	\$4	42,712	\$1	,699,529
Cost of sales	3:	27,679	3	345,689	3	31,138	3	55,200	1	,359,706
Operating income	:	20,291		26,624		25,824		21,720		94,459
Income before extraordinary item		5,986		10,903		6,449		4,461		27,799
Extraordinary loss		_				(1,483)		(4,249)		(5,732)
Net income	\$	5,986	\$	10,903	\$	4,966	\$	212	\$	22,067
Basic and diluted earnings per share:										
Income before extraordinary item	\$	0.53	\$	1.00	\$	0.57		\$0.38		\$2.48
Extraordinary loss				<u> </u>		(0.14)		(0.41)		(0.55)
Net income (loss)	\$	0.53	\$	1.00	\$	0.43	\$	(0.03)	\$	1.93
1998 Quarter ended	N	Sarch 31		June 30		Sept. 30		Dec. 31		Year
Sales	\$ 4	39,853	\$	457,666	\$ 4	158,954	\$ 4	145,920	\$ 1	,802,393
Cost of sales	3	52,839		363,387	3	366,750	3	361,938]	,444,914
Operating income		24,767		29,510		28,263		22,923		105,463
Net income	\$	4,818	\$	11,914	\$	10,556	\$	36,609	\$	63,897
Basic earnings per share	\$	0.42	\$	1.11	\$	0.97	\$	3.48	\$	6.01
Diluted earnings per share	\$	0.41	\$	1.10	\$	0.97	\$	3.35	\$	5.87

The following unusual items are included in the quarterly financial information:

Operating income for the fourth quarters of 1999 and 1998 includes provisions of \$1,500,000 and \$5,000,000, respectively, for environmental expenses to raise accruals to an appropriate level relative to revised estimates of likely future remediation costs. The after-tax effect of the charges is to reduce basic earnings per share by \$.09 in 1999 and \$0.30 in 1998.

Net income for the fourth quarter of 1998 includes an after-tax gain on the sale of Sequa Chemicals of \$30,917,000 or \$2.97 per basic share. As a result of the large gain recorded in the fourth quarter of 1998 and increased common shares outstanding attributable to the exercise of stock options and the issuance of common shares in exchange for preferred shares, quarterly earnings per share are not additive for 1998.

Report of Independent Public Accountants

To the Shareholders and the Board of Directors of Sequa Corporation:

We have audited the accompanying consolidated balance sheet of Sequa Corporation (a Delaware corporation) and subsidiaries as of December 31, 1999 and 1998, and the related consolidated statements of income, cash flows and shareholders' equity for each of the three years in the period ended December 31, 1999. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Sequa Corporation and subsidiaries as of December 31, 1999 and 1998, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 1999, in conformity with accounting principles generally accepted in the United States.

ARTHUR ANDERSEN LLP New York, New York

March 17, 2000

Quarterly Stock Price Data

Shares of Sequa Class A common stock and Sequa Class B common stock are listed on the New York Stock Exchange. The following table sets forth the high and low closing sales prices for these stocks for the calendar periods indicated on the Exchange Composite Tape, as reported by the National Quotation Bureau Incorporated.

	Sequa Class A		Sequa	Class B
	High	Low	High	Low
1999				
First Quarter	60%	44	73	67¾
Second Quarter	70	4713/16	71½	67%
Third Quarter	72¾	61%	77 ½	66
Fourth Quarter	61%	48%	66 ½	54%
1998				
First Quarter	751/8	631/8	80	731/8
Second Quarter	751/4	651/16	85¾	783/4
Third Quarter	74	561/8	811/2	731/8
Fourth Quarter	663/8	453/4	75½	68

Derations

\erospace

Chromalloy Gas Turbine Corporation

1430 Director Drive San Antonio, Texas 78219 210) 333-6010

Dr. Martin Weinstein

Chairman and Chief Executive Officer

Cenneth Binder **President**, Strategic Initiatives **Ind** Chief Financial Officer

Paul Pace
President, OEM Operations
and Controller

Chris Richardson
President, Repair Operations
and Chief Administrative Officer

Neil Henderson
Executive Vice President
Sales and Marketing

3ruce Johnson Executive Vice President Engineering Services

Propulsion

Atlantic Research Corporation

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Internet: www.atlanticresearchcorp.com

Iames R. Sides

Chairman and Chief Executive Officer

ARC Solid Propulsion Division

B. Frank Rohrback Vice President and General Manager

ARC Automotive Products

John E. Skladan Vice President, Operations

Metal Coating

Precoat Metals

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Internet: www.precoatmetals.com

Gerard M. Dombek

President and General Manager

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Internet: www.warwickint.com

Robert F. Ellis Managing Director

Other Products

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Internet: www.megtec.com

Alan D. Fiers

President and General Manager

Sequa Can Machinery

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Internet: www.sequacan.com

George Reall

President and General Manager

Casco Products Corporation

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Internet: www.cascoproducts.com

Howard Huelsman

President and General Manager

Men's Apparel

Three University Plaza Hackensack, New Jersey 07601 (201) 343-8180

Internet: www.tuxedos4u.com

Robert B. Bennett

President and General Manager

Directors and Officers

Board of Directors

Norman E. Alexander¹ Chairman of the Board

Leon D. Black⁴ Principal

Apollo Management, L.P.

investment firm

Alvin Dworman^{1,2}

Chairman

ADCO Group

financial services, merchant banking

and real estate

David S. Gottesman'

Managing Partner

First Manhattan Co.

investment management company

Stuart Z. Krinsly¹

Senior Executive Vice President and General Counsel

Donald D. Kummerfeld³

Chairman

Kummerfeld Associates investment banking and

financial advisory firm

Richard S. LeFrak⁴

President

Lefrak Organization, Inc.

diversified real estate, energy, finance and entertainment production

John J. Quicke¹

President

Michael I. Sovern⁴

President Emeritus

Chancellor Kent Professor of Law

Columbia University

Fred R. Sullivan²

Chairman of the Board

and Chief Executive Officer

Richton International Corporation

diversified services

Gerald Tsai, Jr.^{2,3}

Private Investor

Martin Weinstein

Executive Vice President

Chromalloy Gas Turbine Operations

Honorary Director

A. Leon Fergenson

Former Chairman and

Chief Executive Officer G.K. Technologies, Inc.

1 Executive Committee

2. Audit Committee

3 Compensation Committee

4 Nominating Committee

Corporate Officers

Norman E. Alexander*

Chairman of the Board and Chief Executive Officer

John J. Quicke*

President and Chief Operating Officer

Stuart Z. Krinsly*

Senior Executive Vice President and General Counsel

Martin Weinstein*

Executive Vice President

Chromalloy Gas Turbine Operations

Howard M. Leitner*†

Senior Vice President, Finance

Jesse Battino

Vice President, Human Resources

Robert D. DeVito

Vice President, Corporate Development and Strategy

Gerard M. Dombek

Vice President, Coil Coatings

Kenneth A. Drucker

Vice President and Treasurer

Alan D. Fiers

Vice President, MEGTEC Operations

Howard Huelsman

Vice President

Casco Products Operations

Robert L. Iuliucci

Vice President

Environmental, Safety and Health

William P. Ksiazek

Vice President and Controller

Linda G. Kyriakou

Vice President

Corporate Communications

Stephen J. Schaus

Vice President

Operational Excellence

James R. Sides

Vice President

Atlantic Research Operations

Steven R. Lowson

Secretary

Mitchell D. Bittman

Assistant Secretary

Michael Blickensderfer

Assistant Treasurer

James P. Langelotti

Assistant Treasurer

John J. Van Decker

Assistant Controller

^{*} Management Executive Committee

[†] Effective January 2000

Corporate Data

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200 Park Avenue New York, NY 10166

Tel: (212) 986-5500 Fax: (212) 370-1969

Internet: www.sequa.com

Transfer Agent and Registrar

The Bank of New York New York, New York Tel: 1-800-524-4458

Internet: http://stock.bankofny.com

E-mail: http://shareowner-svcs@bankofny.com

Stock Listing

New York Stock Exchange Common stock symbols: SQA A

SQA B

Preferred stock symbol: SQA Pf

Form 10-K

A copy of Sequa Corporation's 1999 Annual Report on Form 10-K filed with the Securities and Exchange Commission is available upon request to the Corporate Communications Department.

Internet

For more information on Sequa Corporation, visit the company's web site at www.sequa.com. The site also contains links to many of Sequa's worldwide operations, as well as to SEC filings and other corporate information.

Annual Meeting

The annual meeting of stockholders will be held Thursday, May 4, 2000, at 11:00 a.m. at The Chase Manhattan Bank, 270 Park Avenue, New York, NY, 11th Floor, Conference Room A.

0617-0096

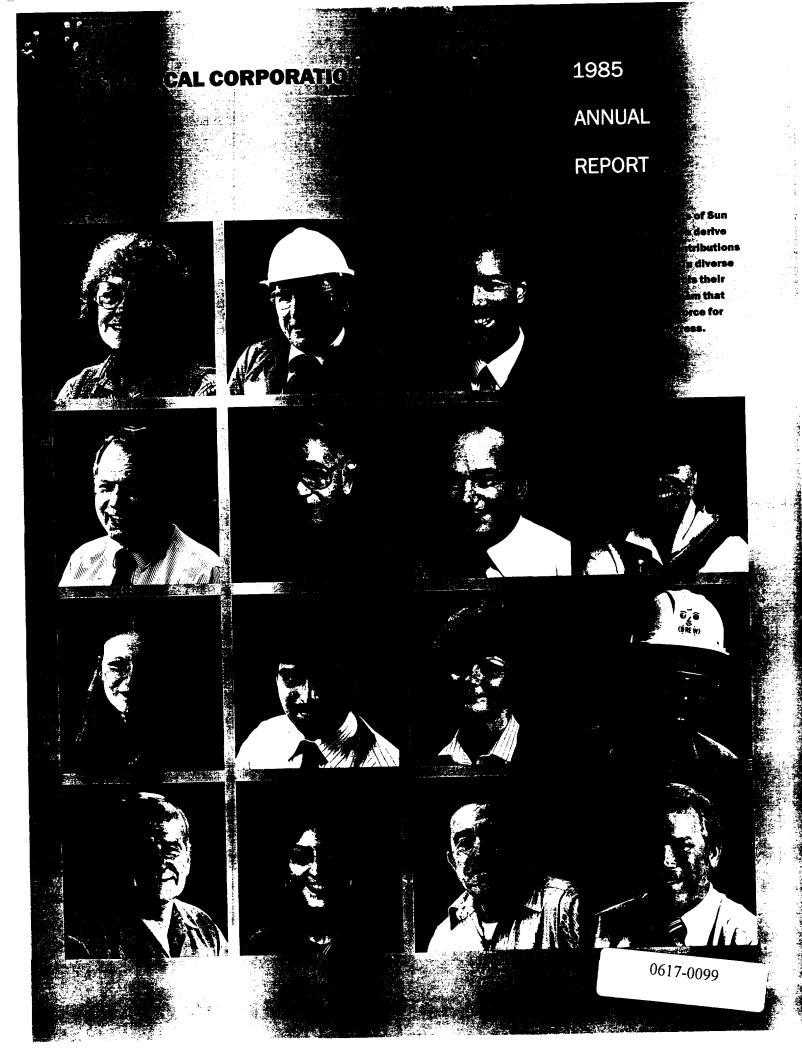
Design and Production:
BenderPlus/Beau Gardner Associates
Photography: John Earle
Printed in U.S.A.
© 2000 Sequa Corporation



Sequa Corporation 200 Park Avenue New York, NY 10166

SITE: Reterson Priitan BREAK: 11,9 OTHER: OUZ

Attachment B





GRAPHIC

ARTS

MATERIALS

OPERATING PERFORMANCE							
(IN MILLIONS)	1985	1984	1983				
SALES	\$557.2	\$556.0	\$456.2				
OPERATING INCOME	40.7	52.3	40.9				
ASSETS EMPLOYED	342.9	314.7	248.6				

The graphic arts materials group comprises the company's domestic and international printing ink and organic pigments operations, as well as the overseas automotive paints business of Ault & Wiborg.

During 1985 operations in most major markets encountered considerable pressure generated by a slowdown in end-user demand and intensified competition. As a result, sales of graphic arts products were virtually unchanged at \$557.2 million, and operating income declined 22% to \$40.7 million from \$52.3 million.

The primary factor affecting the group's performance was the contraction of the U.S. printing ink industry, as the consumption of inks for use in mass market adver-

tising and consumer packaging declined.

Lower advertising levels reflected the generally sluggish tone of the overall economy during the year, while the decline in packaging inks stemmed from a transition toward greater use of plastic packaging, which requires considerably less ink coverage. Though the packaging trend represents a genuine market shift with longer-term implications, the larger and more significant publishing market responds rapidly to improved economic conditions.

The slowdown in the ink industry had a serious unfavorable effect on the organic pigments business, since 60% of all pigments produced is directed to the manufacture of printing ink. Moreover, foreign pigments



producers enjoyed a pricing advantage in American markets, derived from the high value of the U.S. dollar.

DOMESTIC PRINTING INK

Despite the intense pressures of the marketplace in 1985, the General Printing Ink Division (GPI) maintained the pace of efforts directed toward advanced product development, improved production efficiency and further market penetration.

Sun Chemical's largest operating division, GPI is the leading supplier in the United States of inks used by the major printers of packaging and publications. The division produces a broad range of inks for specific printing processes, such as publication gravure and web offset, and holds a particularly prominent posi-

tion in the supply of inks for web offset printing. This process is one of the most important in the field of magazine, advertising and catalog printing.

During 1985 GPI introduced an advanced series of web offset inks for use on uncoated paper or low grades of coated paper stock. The new inks enable customers to achieve a level of print quality that is consistent with the high quality of printing previously available only with more costly grades of coated paper.

The attainment of ever increasing quality standards — both in the products themselves and in the results obtainable by endusers — is an ongoing goal of GPI's research activities.

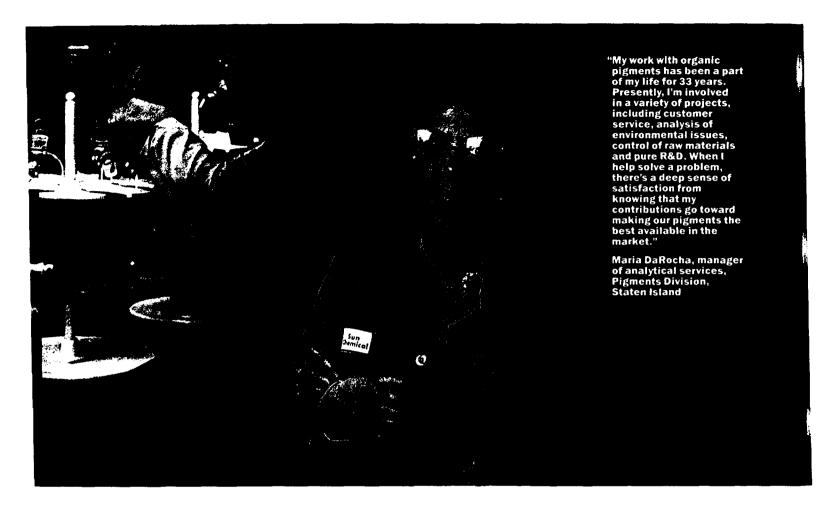
At central research laboratories in New Jersey, GPI

conducts original and applications research studies to advance the state of printing ink technology. Among other innovations originating in the GPI laboratories is a line of oil-resistant inks for use on the covers of mass market magazines. Formulated specifically for the highspeed presses used to print these publications, the cover inks not only impart a dramatic gloss to the printed material but also add resistance to grease and abrasion.

For newspaper publishing, GPI has developed rub-resistant inks that substantially lower the amount of ink rub-off on readers' hands. The division has also introduced a series of reformulated news inks that meet new environmental labeling regulations and have quickly

gained widespread acceptance throughout the newspaper industry.

For the packaging industry, GPI provides inks to decorate packages made from paper, paperboard, metal and other materials. Inks and coatings dried by electron beam radiation, rather than in conventional ovens, are also a part of the division's broad-based line of packaging inks. Used widely on aseptic food packs, such as the singleserving juice cartons now familiar to American consumers, the inks have numerous other packaging applications. GPI is presently working closely with the world's principal producer of aseptic packs to develop additional commercial outlets.



Other packaging inks include metal-decorating inks used to coat and print two-piece cans, as well as flexographic inks for printing paperboard cartons. Through recent research to formulate a new water-based ink for milk cartons, GPI has developed a similar product for use on other plastic packages, including bread wraps and shopping bags.

GPI inks are produced at central manufacturing plants and major branch installations located in or near the nation's primary printing centers. To streamline production processes and capitalize on new technology developed in cooperation with the Pigments Division, GPI has introduced a unique ink manufacturing system at its Frankfort, Indiana, web offset ink plant.

During 1985 the Frankfort plant was expanded to accommodate increased production of these inks to meet the needs of a growing list of web offset printers.

Other manufacturing changes include the expansion of the GPI branch in Detroit and the addition of a branch plant in Pittsburgh. The division also added to its network of in-plants—ink-blending stations located on the site of customer printing plants and providing ready access to inks, as well as 24-hour technical service.

INTERNATIONAL INKS

Sun Chemical maintains a network of printing ink affiliates in Belgium, France, Italy, the United Kingdom and Scandinavia, each of which serves a distinct segment of the European ink market.

During 1985 a program to redesign the company's presence in these markets moved ahead through the evaluation of opportunities to rationalize manufacturing operations and streamline end-product distribution.

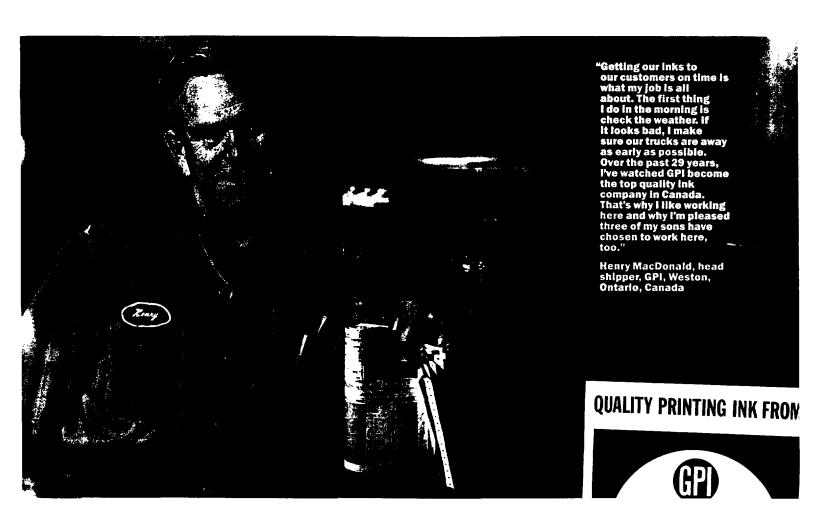
In addition, a major restructuring of the company's British affiliate, Ault & Wiborg, continued during the year, with the construction of a new news ink facility, the consolidation of several production sites and the conversion of other installations to blending plants. These actions are aimed at upgrading the unit's manufacturing capability, improving profitability, and enhancing the quality of service provided to local customers.

In Canada, further penetration of the market was achieved in 1985 through the acquisition of a leading printing ink producer. The new operation provides GPI with a broader base in the Canadian news ink market and adds a centrally located major manufacturing facility in the Toronto area.

ORGANIC PIGMENTS

The Pigments Division, like its sister operation, GPI, confronted difficult market conditions during 1985. In response, the division implemented a series of actions to counter immediate pressures and build on its established position as the largest U.S. supplier in the industry.

Improvements in production processes and the introduction of intensified



quality control programs were among the steps taken during the year. Though these and other actions were targeted to achieve short-term parity in the market with lower-cost foreign suppliers, their longer-term effect will be to strengthen the division's overall position in the domestic market.

In Europe, full-scale operations began at Sun France during 1985 for the production of flushed colors and specialty pigments distributed throughout Western Europe and in other international markets. Flushed colors - pigments predispersed in an oil vehicle are used extensively in the manufacture of printing inks, and Sun's flushing installation in France is the first major facility of its type to serve the merchant market. In addition to pigment flushes, the plant produces dry red, yellow and blue pigments used by the ink, coatings and plastics industries.

Sun France is the result of a cooperative agreement with Sandoz of Basle, Switzerland, which also provides for Sun Chemical to serve as the exclusive North American distributor of high performance pigments produced by Sandoz. Addition of the Sandoz line to Sun's domestic distribution system has enhanced the division's presence in the fibers industry and augmented its already strong position in the plastics and coatings markets. At the same time the distribution arrangement has provided Sandoz with access not only to a wide range of American customers but also to Sun

Chemical's extensive technical support system.

In other domestic pigment operations. Sun serves the printing ink and paint industries with a specialized line of organic pigments predispersed in water. Pigments in this form, called aqueous dispersions, have been a prime ingredient of latex paints for a number of years. More recently, they have gained importance in the manufacture of water-based inks, a rapidly developing segment of the printing ink market. Water-based inks offer environmental advantages over conventional solvent ink systems and have been widely adopted by the manufacturers of inks for packaging applications. The growth of the waterbased ink market has necessitated expansion of

dispersions operations in Amelia, Ohio. The physical facility was expanded in 1984; additional production equipment was installed in 1985; and a further expansion of the plant was begun at the end of 1985.

Investments to upgrade production facilities were also made at the division's headquarters plant in Cincinnati, Ohio, and at its newest installation in Muskegon, Michigan. The Muskegon complex, originally dedicated to the production of yellow pigments, has been expanded to include a broad range of the division's products and has become a showcase for advanced production technology.

0617-0103

SITE: Peterson Purisa BREAK: 11.9 OTHER: OUR

Attachment C

INTEROFFICE CORRESPONDENCE

Sun Std 19

SUN CHEMICAL CORPORATION

TO

GPI PLANT MANAGERS

FROM

Andrzejewski

LOCATION

LOCATION

Northlake

ANSWERING

DATE

August 12, 1981

SUBJECT

Hazardous Waste Management Manual

Rather than having each GPI location write their own Contingency Plan, I decided to put together a Hazardous Waste Management Manual for all GPI facilities. The purpose of the enclosed manual is to bring your location into compliance with R.C.R.A. in correspondence with my letter of July 14, 1981. However, I do ask that you insert the following programs into the contents of this manual:

- 1. A description of your storage facility.
- 2. Site Plan showing hazardous waste storage location.
- 3. Enclose any waste analysis performed for your facility.
- 4. Your plant Evacuation Procedures and plant Emergency Equipment.
- 5. A description of your present disposal methods.
- 6. Should your facility have a Spill Prevention Plan, please also enclose.

If you have any questions or need additional information concerning subject manual, please contact me.

GMA:bm

Encl. (1)

cc: Branch, Regional & Division Managers

23-4x 84019

HAZARDOUS WASTE

MANAGEMENT MANUAL

SUN CHEMICAL CORPORATION GENERAL PRINTING INK DIVISION

LOCA	TION_	GPI	MANSFIELD
EPA	I.D.	NO.	MAD0011:02270

GMA/bm 8/81

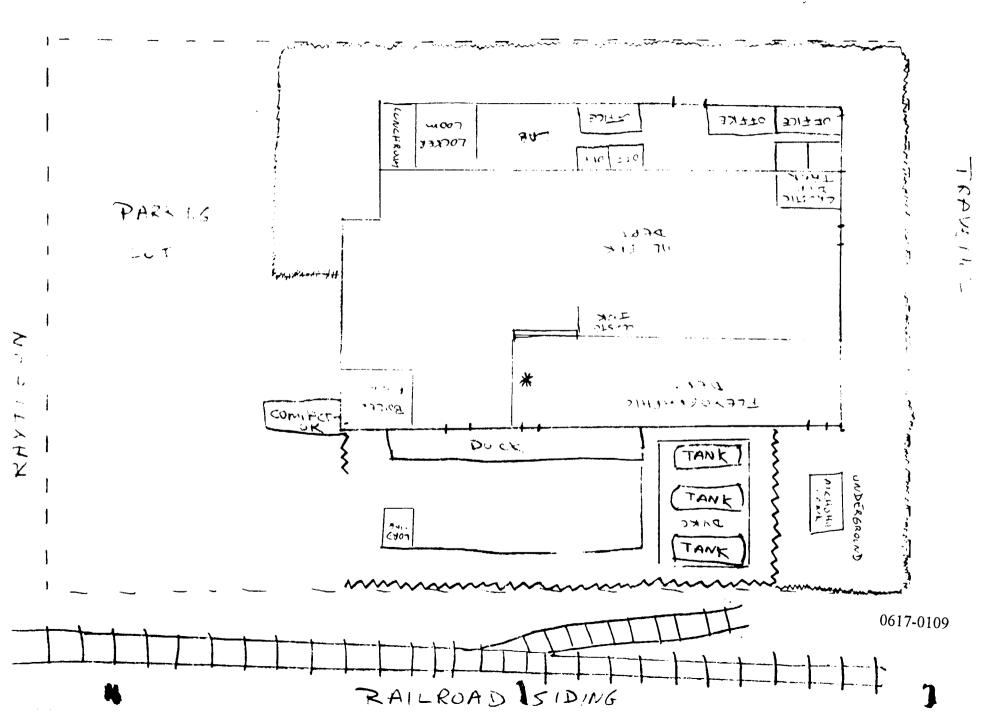
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DESCRIPTION

HAZARDOUS WASTE STORAGE FACILITY

The Harardous Waste Storage Facility is an area immediately inside the Flexographic Department.



GENERAL WASTE ANALYSIS

Copies of extraction procedure toxicity tests are made available at the plant site as they are performed. Currently, organic pigments are not included in the lists of hazardous chemicals nor do they meet the characteristics of ignitability, corrosivity, reactivity or EP toxicity as set forth (April 1, 1981).

New England Testing Laboratory, Inc.

Chemists

Bacteriologists



TEL 353 3420

Certificate of Analysis

TO: MacDonald & Watson W	aste Oil Co.	_ DATE REP	ORTED: 9/1/81
Pole 18 - Peeptoad R	oad	DATE REC	EIVED: 8/18/81
No. Scituate, RI O	2857	ORDER NO	•
Attn: Tony Loperchi	0	CASE NO.	10818-01
SAMPLE DESCRIPTION One	(1) Submitted	Sample Ink	
Gene	ral Printers		
HAZARD	RATING CHARACT	ERIZATION	
METHODS: Appropriate app Hazardous Waste Consolidated Pe	Regulations a	nd/or USEF	oort RI (or other) State PA Hazardous Waste and
RESULTS:			
I. Physical Characteriza	ation:		
1. Appearance	Multi-colored,	rubbery m	aterials, highly viscous
2. Solids, %		79.59	•
3. Volatiles, %			
Organic			
Aqueous		20.41	
4. Oil and Grease		Not app	licable
5.	_		0617-011

II. Hazard Characterization:

1.	Ignitable -	
	Flash Point, °F	> 200

2. Corrosive pH, S.U. (1:10) 5.2 Other

3. Reactivity - None Reaction in water Other

4. Elutraint Analysis (Toxicant Extraction/EP Toxicity):

TOXIC METALS	FOUND, mg/L	RI STATE/USEPA LIMIT, mg/L
Arsenic	< 0.01	5.0
Barium	0.02	100.0
Cadmium	0.08	1.0
Chromium	< 0.01	5.0
Lead	0.05	5.0
Mercury	< 0.01	0.2
Selenium	0.09	1.0
Silver	0.13	5.0

Other

III. Rating:

Based upon the testing performed, it is our opinion that the subject sample is:

Non-Hazardous

IV. Comments:

F. R. Klebacher, Ph.D. Laboratory Director

NEW ENGLAND TESTING LABORATORY, INC.

/bhp

LABELLING / MANIFEST SYSTEM

Drums of waste deemed to be hazardous by Sun Chemical will be properly labelled (See Page 6).

Drums of hazardous waste will be disposed of in the proper manner using a licensed hazardous waste carrier and the proper manifest system (See Page 7).

•	the nearest police or public or the U.S. Environmental
Proper D.O.T Shipping Name	UN or NA No.
Generator	
Origin	
Manifest Document No E.P.A.	Accumulation Start Date E.P.A.
	H.W. NO

· ·	the nearest police or public or the U.S. Environmental y.
Proper D.O.T Shipping Name	UN or NA No.
Generator	
Address	
Origin	
Manifest Document No.	Accumulation Start Date
E.P.A. I.D. No	E.P.A. H.W. No
	LTES, INC. O NEENAH, WISCONSIN SI956 NO. 28-HML

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DESCRIPTION OF DISPOSAL METHODS

Currently we contract outside waste disposers who are authorized to dispose of waste material .

JOB DESCRIPTIONS

Job descriptions for personnel involved in hazardous waste management are as follows:

(See Pages 14-19)

- (1) Production Manager
- (2) Waste Supervisor
- (3) Waste Operator
- (4) Outside Porter

TRAINING

Training for the above personnel, with regard to RCRA responsibilities, will be conducted on an annual basis.

EPA I.D. NUMBER MAD001402270

Job Title:

Production Manager

Department:

Production

.Incumbents:

Mike Metcalf

(name)

Requirements:

Chemical Engineering

3 - 5 years experience

Job Responsibilities:

s: For hazardous waste management, include performing monthly inspections of hazardous waste monitoring equipment, safety and emergency equipment, security devices, and

operating and structural equipment.

Job Title:

Wast Supervision

Department:

Production

Incumbents:

Robert Vachon

(name)

Requirements:

High School Diploma; Chemistry desirable

2 - 5 years prior experience

Job Responsibilities:

For Hazardous waste management

includes:

1. Supervising the daily activities of the chemical operators.

Job Title:

Waste Chemical Operator

Department:

Waste (Production)

Incumbents:

(name)

Peter Nay

Requirements: Prior experience in chemical industry

Job Responsibilities:

For hazardous waste management includes:

- l. Filling drums.
- 2. Sealing drums.
- 3. Decontaminating the work area including tank top or drum top.
- 4. Inspecting decontamination materials and equipment prior to usage.

Job Title:

Outside Porter

Department:

Porter Staff

In cumbents:

(name)

Charles Ross

Requirements:

Trained in operating a hi-lo or Fork truck.

Job Responsibilities: For hazardous waste management

include:

- Removing all drums from the after usage, via hi-lo work saver to the drum washing area.
- Handling of drums into and out of the hazardous waste storage area.

INSPECTION PROCEDURES

Areas and/or pieces of equipment that are used in the Management of Hazardous Waste are to be inspected on a quarterly basis.

The inspections are to be performed by the Production Manager and the logs of the inspections are to be maintained in his office 21 - 27).

The areas and/or pieces of equipment to be inspected are as follows:

- Solvent Reclamation System
- Fire Extinguisher by Hazardous Waste Storage Area
- Fire Hose Station by Hazardous Waste Storage Area
- Hazardous Waste Storage Area

The above areas and pieces of equipment will also be inspected prior to use by the appropriate personnel.

FIRE EXTINGUISHER BY HAZARDOUS WASTE STORAGE AREA

Date of last refill or service	Dec. 1965
Type of extinguisher	Dry Chencel
Seal is unbroken	
Pressure or indicating dial reading	170 LB
Mounted in proper location	Dy Flore 1.

EPA I.D. NUMBER MAD001402270

	Date	Sec	, 1485	
	Name	12. inel	calf	_
FIRE HOSE STATION BY HAZAR	DOUS W	ASTE STOR	RAGE AREA	
Hose properly stored		<u></u>	**************************************	
Nozzle in place			·	
Water pressure available				
Flow tested		Dec. 1º	185	

HAZARDOUS WASTE STORAGE AREA INSPECTION LIST

	·	Yes/No
1.	Are there any leaks in area	
2.	Are any drums in area leaking	
3.	Are labels on all drums	
4.	Are warning signs posted	

WASTE SOLVENT HANDLING PROCEDURE

Following is the established procedure for the handling of waste solvents:

- 1. Each laboratory will have a five gallon can for the disposal of waste solvents.
- 2. When the five gallon can is full, the laboratory supervisor will notify the Traffic Supervisor.
- 3. The Traffic Supervisor will dispatch the outside porter to remove the waste solvent from the laboratory.
- 4. The outside porter will put the waste solvent into the proper container in the hazardous waste storage area.
- 5. The outside porter will return the empty can to the appropriate laboratory.

CONTINGENCY PLAN

The purpose of the Contingency Plan is to have plant personnel and local authorities in a state of preparedness to handle any emergency situation with regard to hazardous waste. A copy of the Contingency Plan is to be submitted to and discussed with the following organizations:

- 1. Local Fire Department
- 2. Local Police Department
- 3. Doctor's Hospital
- 4. Spill Prevention Team

The elements of the Contingency Plan are as follows:

- I. PLANT EMERGENCY COORDINATOR
 - (1) Primary

MICHAEL J. METCALF, PLANT MANAGER

(2) Alternate

ROBERT VACHON, LABORATORY MANAGER

- (3) Responsibilities Prior to an Emergency
 - Familiarize the Local Police Department, the Local Fire Department, Doctor's Hospital and Spill Prevention Team with the following:
 - The location of the hazardous waste storage area and potential hazardous wastes.
 - .. The spill prevention plan.
 - . The emergency plant evacuation procedures.
 - The equipment used in handling hazardous waste emergencies.

(continued)

CONTINGENCY PLAN

- I. PLANT EMERGENCY COORDINATOR (Continued)
 - (4) Responsibilities in the Event of a Hazardous
 Waste Emergency
 - To immediately report to the plant site.
 - To commit whatever plant resources are necessary to contain the emergency situation.
 - To contact and/or call in whatever local emergency units are necessary.
 - To provide the local emergency units with the following information:
 - · Nature of the emergency (fire, spill, etc.).
 - · Type of hazardous waste involved.
 - Type of illnesses or injury that could result from the emergency.
 - · Potential emergency services needed.
- II. SPILL PREVENTION PLAN
 - (1) See Pages 23 31
- III. PLANT EVACUATION PROCEDURES
 - (1) See Pages 32 -
- IV. PLANT EMERGENCY EQUIPMENT
 - (1) See Page 33

0617-0128

II. SPILL PREVENTION PLAN

A. Emergency Action Plan (general)

RE: SPILL/STORAGE TANK RUPTURE STANDARD OPERATING PROCEDURE

In the event of a spill, line failure, or storage tank rupture of 50 gallons or more, the following steps should be taken immediately:

a. The person detecting the spill/rupture should take proper action to stop the spill and immediately notify all personnel in the area of the hazard, instruct these people to stay clear, and post personnel at the perimeter to prevent accidental contact. If the person is in the hourly ranks, he should immediately notify his supervisor, who will take the action outlined in 'B' below.

(If he is a member of supervision, he will follow the "Emergency Plan.")

b. Emergency Plan

1. If the spill occurs between 8 A.M. and 5 P.M., contact the Engineering Manager, who will immediately institute controlling actions if not implemented yet, and in addition, consult with technical personnel on the proper cleanup/decontamination/neutralization procedure. If the Engineering Manager is not available, contact the Maintenance Manager, Production Manager or Operations Manager.

During other than weekday workhours, the following individuals will be immediately notified (in the order listed) of any spill:

(List Coordinators):

Mike Metcalf Bob Vachon Dave Condon Gary Andrzejewski

The supervisor on duty will have their numbers.

- 2. In all cases, the Engineering Manager will notify the Operations Manager and give a situation report detailing nature of the spill material involved, volumes involved, and control actions implemented.
- 3. The Engineering Manager will determine if it is necessary to call in outside help to control the situation. (Fire Dept., Police). The Operations Manager will notify the City if necessary.
- 4. The maintenance department will accomplish the necessary cleanup, washup, etc.

0617-0129

II. SPILL PREVENTION PLAN (continued)

- A. Emergency Action Plan (General)
- RE: SPILL/STORAGE TANK RUPTURE STANDARD OPERATING PROCEDURE
 - c. After the emergency has passed, the Engineering Manager will hold an investigation into the cause. He will file a report with the Operations Manager within 72 hours of the incident.
 - d. This procedure applies to all chemical and oil spills, line failures, and/or tank ruptures.

11. SPILL PREVENTION FLAN - Compace

B. [mergency Action Plan (specific) MA P.00]402270

4<u>;10s</u>

tic Acid

pilute spills in all areas with water and divert to effluent neutralization system. Neutralize with sodim hydroxide. Leaky drums if possible should be moved to neutralization sewers. Otherwise drums must be iced down and neutralized in place with SODA ASH. If soda ash is unavailable neutralizable with sodium hydroxide, lime or limestone. (Not used at Mansfield facility.)

Muriatic Acid

Same as for acetic acid. (Not used at Mansfield facility.)

Sulphuric Acid

Dilute spill very cautiously with 5 or 6 volumes of water and ice. Neutralize gradually as for acetic acid when spill can be directly diverted into effluent neutralization system. If spill cannot be directly diverted into effluent neutralization system, first gradually neutralize with soda ash, then dilute with water. (Not used at Mansfield facility.)

Toluene Sulfonic Acid

Same as for acetic acid. (Not used at Mansfield facility.)

sphoric Acid

Same as for acetic acid. (Not used at Mansfield facility.)

Alkali

50% caustic soda - Dilute spill in all areas with water and divert to effluent neutralization system. Neutralize with acetic acid if required, but to avoid excess exotherm add ice.

Neutralization Caustic - Same as 50% caustic soda.

Ammonia (liquid) - Flush with large quantities of water, keep vapor to a minimum with water fog. Divert to effluent neutralization system. (Not used at Mansfield facility.)

Bromine

Extremely toxic gases given off as liquid vaporizes. Proper respiratory protection must be worn when approaching spill. (Not used at Mansfield facility.)

1. Ice down leaky cannister to liquify bromine.

2. Pack with sodium thiosulfate to seal off leak.

0617-0131

Miscellaneous Drum Oils, Surfactants, Amines, etc. Spills

Caution: Consult Material Safety Data Sheets maintained in Laboratory Manager's Office for specific hazards of each material.

<u>Dry Powders</u> (other than DCB) - Shovel up spills. Dilute with water and divert to effluent neutralization system.

Liquids (oils) - (1) Absorb spill with some absorbant medium. Typical mediums are: hazorb, absorball or sorbent (3M). (2) Shovel up spill and absorbant medium into drum marked HAZARDOUS WASTE with exact contents of spill noted.

(3) Transfer drum to hazardous waste storage area. (4) Discard as hazardous waste to approved sites.

- Fuel Oil (1) Spill of less than 1,000 U.S. gallons
 - (a) Handle as for liquid oil spills.
 - (b) Does not have to be reported.
 - (2) Spill of greater than 1,000 U.S. gallons of oil.

Whenever a facility has discharged more than 1,000 U.S. gallons of oil into or upon the navigable waters of the U.S. or adjoining shorelines in a single spill event or violates applicable water quality standards or causes a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a slu or emulsion to be deposited beneath the surface of the water or upon adjoining shorelin the owner or operator of such facility shall call the U.S. EPA Regional Administrator, State Water Pollution Control Agency, and if the oil enters a navigable waterway, the owner must also notify the local Coast Guard office.

If a reportable spill occurs twice within any twelve month period, the owner or operator must submit to the Regional Administrator within 60-days of the second reportable spill the following information, (a duplicate must also be sent to the State Water Pollution Control Agency):

- 1. Name of the facility.
- 2. Name (s) of the owner or operator of the facility.
- 3. Location of the facility.
- 4. Date and year of initial facility operation.
- 5. Maximum storage or handling capacity of the facility and normal daily throughput.

(continued)

- 6. Description of the facility, including maps, flow diagrams, and topographical maps.
- 7. A complete copy of the Spill Prevention Control and Countermeasure Plan (SPCC) with any amendments.
- 8. The cause (s) of such spill, including a failure analysis system or subsystem in which the failure occurred.
- 9. The corrective actions and/or counter-measures taken including an adequate description of equipment repairs and/or replacements.
- 10. Additional preventative measures taken or contemplated to minimize the possibility of recurrence.
- 11. Such other information, as the Regional Administrator may reasonably require, pertinent to the SPCC Plan or spill event.

SUMMARY

The discharge oil <u>MUST</u> enter into or upon a navigable waterway and it must be spilled in excess of 1,000 gallons or it must cause a film or sheen of the surface of the waterway before the U.S. EPA, State Agency, or Coast Guard is called.

If the oil is spilled on plant property, regardless of amount, and it does not enter a navigable waterway or water supply, then it does not have to be reported.

REPORTING PROCEDURE

A. Telephone Numbers to Call - 617-339-3526

, ALL PLANTS MUST CALL:

National Response Center

(800) 424-8802

This satisfies the requirement for notifying Federal EPA and the Coast Guard.

 $\underline{\mathsf{EACH}}$ plant $\underline{\mathsf{MUST}}$ then call $\underline{\mathsf{ONE}}$ of the following numbers to notify State $\underline{\mathsf{EPA:}}$

(617) 947-1234 Ext 680-684 DEQE LAKEVILLE

Please include a written statement in your files indicating when the call(s) were made, the person(s) spoken to, time of the call, and summary of the conversation.

Report the following:

- Quantity of spill which has entered or about to enter a navigable waterway.
- 2. Clean up and containment measures already taken.
- 3. Where spill is located.

0617-0134

II. SPILL PREVENTION PLAN - continued

EPA I.D. NUMBER MA D001402270

0

Waste Solvent Spill Action Plan

- 1. Immediately notify appropriate management personnel as outlined in Emergency Action Plan (General).
- 2. Absorb spill with some absorbent medium. Typical mediums are; hazorb, absorball or sorbent (3M).
- 3. Shovel up spill and absorbant medium into drum marked Hazardous Waste with exact contents of spill noted.
- 4. Transfer waste to hazardous waste storage area.

II. SPILL PREVENTION PROGRAM - continued Training Program

EPA I.D. NUMBER
MA 0001402270

- All responsible management and supervisory personnel will receive overall spill prevention and control training. -Responsible person: Production Manager.
- 2. All hourly personnel will receive <u>seneral</u> <u>emergency response</u> and training specific to their work area. Responsible person: Production Manager.
- 3. Frequency of future training will be administered in accordance with the overall plant safety program, but at least once every two years. Responsible person: Personnel Manager.
- 4. After any spill incident, there will be an in-plant review for all supervisors and operators. - Responsible person: Production Manager.

0617-0136

11. SPILL PREVENTION PLAN - continued

Spill Reporting Procedure

If you have a spill of a hazardous substance in a reportable quantity to the out of plant environment call:

	Name	Home Phone	Office Phone
1.	RCRA Plant Emergency Coordinator		
	Mike Metcalf		339-3526
2.	(Alternate) Bob Vachon		339-3526
3.	Paul Duval		339-3526
4.	Dave Condon		339-3526
5.			
6			

For spills of solvent or fuel oil (over 1,000 gallons) the agencies to call are given under the specific spill procedures.

Responsible person: Operations Manager Mike Metcalf RCRA

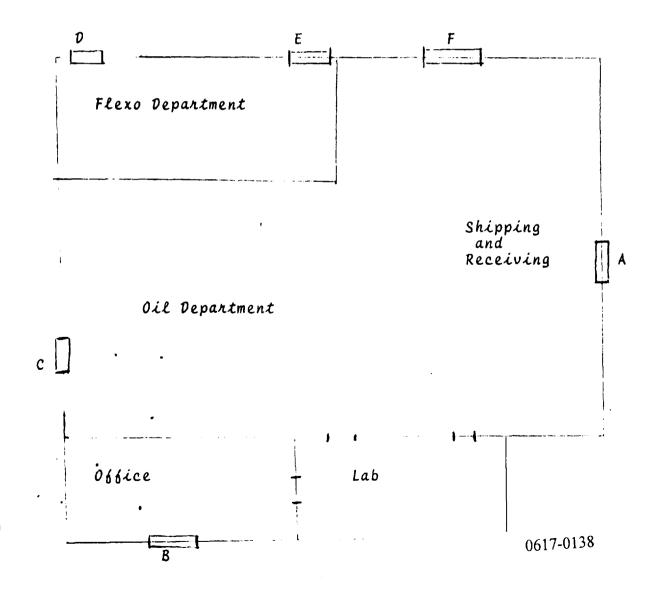
Plant Emergency Coordinator

0617-0137

III PLANT EVACUATION PROCEDURES

In the event that the plant would need to be evacuated an announcement would be made over the public address system or the fire alarm would be set off and employees would exit the building as outlined in the drawing below:

- 1. Anyone working in shipping and receiving exit door A or F.
- 2. Anyone working in laboratory exit dorrs A or B.
- 3. Anyone working in oil department exit doors A or C.
- 4. Anyone working in flexo department exit doors D or E.
- All employees are to assemble in the parking lot for headcount.



IV PLANT EMERGENCY EQUIPMENT

Fire extinguishers

Fire hose

Inkknives

Shovels

Rags

Speedi-dri

Sand

Sawdust

Sandpiper pump

Floor scrubber

Washup Solution

0617-0139

CLOSURE AND POST-CLOSURE PLANT

I. Plant Clean-up

- A. Once notice has been given, no facility will have more than 80 drums or 1 truck load of waste at their location for a period of 90 days.
- C. All facilities will do ground water monitoring for 180 days or the duration of the closure.
- D. All inks classified as work-off will either be sludged or transported to a G. P. I. facility to be worked off.
- E. Where applicable all above ground and underground tanks will be <u>drained</u> of contents into accepted containers for disposal or shipment to another facility tanks will then be flushed.
 - Engineering Services will recommend necessary materials to be used in decontamination of tanks.
- F. Once items A thru E have been completed, Engineering Services and the Environmental Control Manager, will inspect the facility before requesting final closure permit.

23-\$x-87\$1\$4

ANTHONY D. CORTESE, Sc. D. Commissioner

The Commonwealth of Massachusetts Executive Office of Environmental Affairs Department of Environmental Quality Engineering Division of Haxardous Wastes

ONE Winter Street, Boston 02108

Ronald A. Lang, Executive Director Synthetic Organic Chemical Manufactures Association 1075 Central Park Avenue Scarsdale, N.Y. 10583

Dear Mr. Lang:

The Massachusetts Department of Environmental Quality Engineering (DEQE) is developing comprehensive "cradle-to-grave" hazardous waste regulations to be promulgated in late January 1982. To help generators, transporters and treatment-storage-disposal familities understand and comply with these new regulations, the Division of Hazardous Waste is also developing an industryspecific education and information program.

The Division is asking for your help as the essential ingredient to make this program effective. We would like to hear any information, ideas, or concerns about hazardous waste issues partiuclar to your association or industry.

Specifically, we need:

- A list of your Massachusetts members;
- The person(s), office(s), or committee(s) within your organization 2. with whom we should establish contact;
- Any written or visual educational material regarding hazardous 3. waste which you may have developed.

The sooner we receive your input, and the more topical it is, the better we can educate your members about the impact of these new regulations on their business concerns.

Thank you for your prompt attention to this matter.

Sincerely, Gastin Buchte

Justin Doeble

Office of Public Participation

JD/AR/jp

27-1- BE110

socma

SYNTHETIC ORGANIC CHEMICAL MANUFACTURERS ASSOCIATION INC. 1075 CENTRAL PARK AVENUE. SCARSDALE, N Y 10583 • (914) 725 1492

January 18, 1982

TO: RCRA PROJECT GROUP

MASSACHUSETIS REQUEST FOR INFORMATION

Ladies and Gentlemen:

50CMA has received the attached correspondence for the state of Massachusetts. The letter speaks for itself. It would be helpful to receive your thoughts on this topic before I give a written response.

Sincerely,

Bruce C. Grefrath

Manager, Environmental Affairs

Attachment

JAN 25 1982

R, IULIUCCI

0617-0142



23 px 32 9349

General Printing Ink Division

320 FORBES BOULEVARD, MANSFIELD, MASS. 02048 • (617) 339-3526

March 9, 1982

Bruce C. Grefrath, Manager, Environmental Affairs Synthetic Organic Chemical Manufacturers Assoc. 1075 Central Park Avenue Scarsdale, New York 10583

Dear Mr. Grefrath

Attached is a copy of our Hazardous Waste Management Manual which is being forwarded to you to help the State of Massachusetts and SOCMA in developing its hazardous waste regulations. See attached letters also.

If I can be of further assistance please call 617-339-3526.

Sincerely,

Michael J Metcalf

Plant Manager

General Printing Ink Co.

SITE: Pelessa Rentan BREAK: 11.9 OTHER: OUZ

Attachment D

Cal's Enterprises

RUBBISH REMOVAL DIVISION

On Site Container and Compactor Service of the Highest Dependability

January 14, 1974

Mr. Anthony C. Fueill Su Chemical Company General Printers Ink 320 Forbes Blvd.' Mansfield, Massachusett.

Dear Mr. Fucillo;

Thank you for the apportunity to submit this proposal for the removal, transportation and disposal of rubbish from your plant in Mansfield.

To accomplish this service, we would recommend the use of a 2.5 cubic yard compactor, soupled with a 45 yard closed \sim container.

Our compactor develops a tons of total pressing force. The charging chamber configuration is 2½ cubic yards, with a hopper extension that increases this capacity to an excess of 4 cubic yards. The algorithmeneses this capacity to an excess of 4 cubic yards. The algorithmenese of the compactor size is based on the amount and size of material that can be introduced into the chamber and also affects the frequency for cycling the ram. The tons of ram torce and the container size determine the frequency of container empties. Our systems are capable of a 5 to 1 compaction ratio and remove 5 to 6 tons of material with each emptying of the container.

The operation of the compactor is safe and simple. Rubbish is brought to the compactor and thrown into the charging chamber. When the chamber is full, a button is pressed on a remote control located near the machine and the ram automatically clears the chamber, packing the material into the container.

We furnish and install the complete system on your premises at our expense. The ones expense to you would be to provide 220/440 volt 3 phase, be eyele power to run a 10 H.P. motor. The control circuit of the unit is 110 volts and is supplied internally by a transformer from the 3 phase.

The only part of the machine that would be inside the building is the power pack unit, thereby freeing a considerable amount of floor space. It would also eliminate a potential fire hazard.

We will maintain the equipment and such maintenance includes:

- 1. 24 hour repair service
- 2. Preventive maintenance
- 3. Lubrication
- . 4. Periodic cleaning and painting

All transportation and disposal of compacted waste would be accomplished by Cal's Enterprises, exclusively and we guarantee pick-up of containers as ordered by you within four hours of your call six days a week.

Charges for the above service are as follows:

1. Service charge for the equipment per week \$48.00

2. Service charge for each removal and emptying of the container. \$44.00*

Any applicable dump fee would be back charged to General Printers Ink. At this time there would be no dumping fee for Mansfield.

We do not require a contract or long term agreement on our installations, so that we can put in our equipment with nothing but your approval. If you don't like the equipment or service, we'll take it out. We have never had to pull a machine because of poor equipment or service - we have the best of both.

I hope this proposal will concur with your needs and look forward to providing the service as outlined. If you have any further questions, please call me.

Sincerely,

Roger K./Miller Sales Representative

0617-0146



Cal's Enterprises RUBBISH REMOVAL DIVISION

On Site Container and Compactor Service of the Highest Dependability also Recycling Services

ROGER K. MILEER

Berkley, Mass. 02780



HLJI SUPER MARKET

For the customer with high volume waste compaction units are available and can be location. Often used in conjunction with or through wall adaptations for tamper prefeatures:

Stop insect, rodent and odor problem Reduce the chance of fire, control Control trash buildup.

Available in from ½ cubic yard to charging box capacity, coupled containers of from 30 to 50 cubic yards.

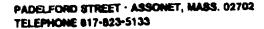




SITE: <u>Refersor Puritan</u> BREAK: <u>11.9</u> OTHER: <u>OUZ</u>

Attachment E

CAL'S ENTERPRISES



1



DIVISION OF SCA DISPOSAL SERVICES OF NEW ENGLAND, INC.

August 11, 1982

Mr. Helfont
Sun Chemical Company
Cabot, Cabot & Forbes Industrial Park
Mansfield, Mass. 02048

Dear Mr. Helfont:

The private sanitary landfill where we dispose of your loads of rubbish has expressed some concern about what is in your containers.

Could you please send us a letter at your earliest convenience stating what is in the container and verifing that the contents are non-hazardous waste.

Thank you for your cooperation.

Very truly yours,

William C. Sullivan

District Manager

WCS/pjd

0617-0149

NON-01-5000 12:SE



General Printing Ink Division

320 FORBES BOULEVARD, MANSFIELD, MASS. 02048 • (617) 339-3526

November 1, 1982

Mr. William C. Sullivan Cal's Enterprises Padelford Street Assonet, MA. 02702

Dear Mr. Sullivan:

The loads of rubbish that SCA Disposal Services regularly haul from our facility are basically composed of normal office trash, spent packing materials, and the empty container in which we receive our raw materials if they are in such a condition as they cannot be re-utilized. These empty containers are scraped as clean as possible so as to ensure dry loads of rubbish. Any bulk waste is handled by another firm specially contracted for that purpose.

Admittedly there will be a certain amount of clingage in our empty containers. This clingage is virtually identical to our bulk waste which has been analyzed by an independent laboratory and classified as non-hazardous. A copy of the analytical report is attached.

The printing inks produced at our facility are for the most part used by commercial publications and packaging firms, and as can be seen from the attached report the levels of toxic metals are far below the U.S.E.P.A. limits.

I trust that this information will satisfy your needs.

Yours truly,

Michael J. Meycalf

Plant Manager

MJM:jr

New England Testing Laboratory, Inc.

Chemists

Bacteriologists



TEL 353 3420

1254 DOUGLAS AVENUE, NORTH PROVIDENCE, AMODE ISLAND 02904

Certifi	rate of Analysis
	Waste 011 Co. DATE REPORTED: 9/1/81
Pole 18 - Peeptoad	Road DATE RECEIVED: 8/18/8)
No. Scituate, RI	02857 ORDER NO
Attn: Tony Loperch	to CASE NO. 10818-01
SAMPLE DESCRIPTION One	(1) Submitted Sample Ink
Gen	eral Printers
METHODS: Appropriate ap	proved procedures to support RI (or other) State ce Regulations and/or USEPA Hazardous Waste and Permit Regulations
RESULTS:	•
I. Physical Characteria	ration:
1. Appearance	Multi-colored, rubbery materials, highly viscous
2. Solids, %	79.59
3. Volatiles, X	
Organic	•
Aqueous	20.41
4. 011 and Grease	Not applicable

0617-0151

. 6

NON-01-5000 13:55

MacDonald & Watson Waste 011 Co. September 1, 1981 Page 2. 10818-01

II. Hazard Characterization:

1.	Ignitable -	
	Flash Point. °F	> 200

2. Corrosive pH, S.U. (1:10) 5.2 Other

3. Reactivity - None Reaction in water Other

4. Elutraint Analysis (Toxicant Extraction/EP Toxicity):

TOXIC METALS	FOUND, mg/L	RI STATE/USEPA LIMIT, mg/L
Arsenic	< 0.01	5.0
Barium	0.02	100.0
Cadhi um	0.08	1.0
Chromium	< 0.01	5.0
Lead	0.05	5.0
Mercury	<0.01	0.2
Se l'en1um	0.09	1.0
Silver	0.13	5.0
Other .	. •	

' - III. Rating:

Based upon the testing performed, it is our opinion that the subject sample is:

Non-Hazardous

IV. Comments:

F. R. Klebacher, Ph.D. Laboratory Director

NEW ENGLAND TESTING LABORATORY, INC.

0617-0152

Ah



General Printing Ink Division

320 FORBES BOULEVARD, MANSFIELD, MASS. 02048 • (617) 339-3526

December 7, 1982

Mr. Jerry Monte Department Environmental Quality Hazardous Waste Section Lakeville Hospital Lakeville, MA 02346 1 1731

Dear Mr. Monte:

As we had discussed, SCA Disposal Services has requested Sun Chemical to obtain a letter from your office, with regard to our solid waste disposal.

I have attached a lab analysis covering the waste left in our empty raw material containers. As I expressed in our conversation, there would be less than 1 inch of material left in the containers. As you can see, the analysis of the material is non-hazardous.

I would also bring to your attention, if less than I inch of material remains in the containers, regardless of classification, the regulations do not apply. Therefore, once you have reviewed the attached analysis, a letter from your office stating the material can be accepted at SCA would be greatly appreciated. Average disposal of containers is 25 to 40 kits per month.

Should you require any additional information please do not hesitate to contact my office at (312) 562-0550.

Sincerely,

Gary Andrzejewski

Daym andygund

General Printing Ink

Division Manager

Safety/Health/Environmental

Control

GA:jr

New England Testing Laboratory, Inc.,

Chemists

Bacteriologists



TEL 353-3420

1254 DOUGLAS AVENUE, NORTH PROVIDENCE, RHODE ISLAND 02904

Certificate	of	Analysis
--------------------	----	----------

-	-				
TO:_	Ma	cDonald & Watso	on Waste 011 Co.	DATE REPORTED: 9/1/8	1
	Po	le 18 - Peeptoa	id Road	DATE RECEIVED: 8/18/	81
	No	. Scituate, RI	02857	ORDER NO.	
	_At	tn: Tony Loper	rchio	CASE NO. 10818-01	
SAM	PLE I	DESCRIPTION	one (1) Submitted	Sample Ink	
		6	ieneral Printers		
-		HAZ	ARD RATING CHARAC	TERIZATION	
MET	HODS	Hazardous W	approved procedu aste Regulations d Permit Regulati	res to support RI (or c and/or USEPA Hazardous ons	other) State Waste and
RES	ULTS	<u>3</u> :		· · · · ·	
I.	Phy	sical Characte	rization:	•	
	1.	Appearance	Multi-colored	, rubbery materials, hi	ghly viscous
	2.	Solids, %		79.59	•
	3.	Volatiles, X			
		Organic			
		Aqueous	•	20.41	, A.
	4.	Of 1 and Greas	e	Not applicable	0617-0154

5

6. 30/10:00 10 6581 795 801

ZON CHEWICH

MON-01-5000 13:57

MacDonald & Watson Waste 011 Co. September 1, 1981

Page 2. 10818-01

%

II. Hazard Characterization:

1.	Ignitable -	
	Flash Point. °F	> 200

. 2. Corrosive pH, S.U. (1:10) 5.2 Other

3. Reactivity - None
Reaction in water
Other

4. Elutraint Analysis (Toxicant Extraction/EP Toxicity):

FOUND, mg/L	RI STATE/USEPA LIMIT, mg/L
< 0.01	5.0
0.02	100.0
0.08	1.0
< 0.01	5.0
0.05	5.0
< 0.01	0.2
0.09	1.0
0.13	5.0
	<0.01 0.02 0.08 <0.01 0.05 <0.01 0.09

Other

' - III. Rating:

Based upon the testing performed, it is our opinion that the subject sample is:

Non-Hazardous

Control of the state of the second of the second

IV. Comments:

F. R. Klebacher, Ph.D. Laboratory Director

NEW ENGLAND TESTING LABORATORY, INC.

0617-0155

/bhp



PAUL T. ANDERSON Regional Environmental Engineer

The Commonwealth of Massachusetts

Executive Office of Environmental Affairs Department of Environmental Quality Engineering

Southeast Region

Lake wille Hospital, Lake mille, Massachusetts 02346 947-1231, Ext. 680-684

23-41-82-328

December 28, 1982

Sun Chemical Corp. 320 Forbes Boulevard Mansfield, Massachusetts 02048 RE: MANSFIELD--Hazardous Waste Sun Chemical Corp.

ATTENTION: Gary Andrzejewski, Division Manager

Gentlemen:

The Department of Environmental Quality Engineering is in receipt of your letter dated December 7, 1982 relative to disposal of empty 5 gallon containers which originally contained printers ink. Also, enclosed was a laboratory analysis of the material tested by New England Testing Laboratory, Inc., of North Providence, Rhode Island.

Please be advised that Regulation 30.357 of 310 CMR 30.000 the Commonwealth of Massachusetts Hazardous Waste Regulations states that empty containers, i.e. those which contain less than one inch of material, are not subject to the Regulations unless it is an acutely hazardous waste.

The analysis submitted indicates the material would not be classified as a hazardous waste therefore the containers are not subject to the "Regulations" and may be disposed of as a solid waste.

If you have any questions relative to this matter, please contact Gerald Monte of this office.

Very truly yours,

For the Commissioner

Hazardous Materials and Solid Waste Section

S/GM/kd

cc: Paul J. Folkman Hazardous Waste Coordinator Town Hall 50 West Street Mansfield, Mass. 02048

0617-0156

SITE PHESSE PURITION
BREAK: 11.9
HER: OUL

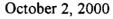
Attachment F



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

1 CONGRESS STREET, SUITE 1100 BOSTON, MASSACHUSETTS 02114-2023



Leonard P. Pasculli, Esq. Sequa Corporation Three University Plaza Hackensack, NJ 07601



RE: Discretionary Release of Information Regarding the Involvement of Sun Chemical and General Printing Ink at the Peterson/Puritan Site, Operable Unit 2, which Includes the J.M. Mills Landfill

Dear Mr. Pasculli

During our phone conversation on September 22, 2000, you asked for public documentation or information that might assist you in responding to the information request pursuant to Section 104(e) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Based on this request, I have enclosed copies of all the information that discuss the use of the J.M. Mills Landfill by Sun Chemical and General Printing Ink.

If you have any questions please do not hesitate to call me. I can be reached at 617-918-1774.

Sincerely,

Michelle Cutler-Jones **Enforcement Counsel**

nulelle intle

0617-0158

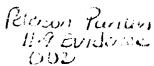
BTE 11/2 Evidence

REDACTED - Attachment 3a - REDACTED Carrier Survey in Response to Request 5(a) for Cal's Enterprises, Inc.

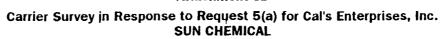
Customer Name	Type of Business	Waste Description	Container Type	Pick-up Frequency	Source of Information (and dates of tenure)	Disposal Location (and Relevant Time Period)
	Mansfield, MA company reportedly produced ink products+B5	small ink cans with residues and some loose ink that was mixed with plant trash	42-yard packer	relief stops with infrequent Site disposals	driver (early 1970s- 1986)	J.M. Mills Landfill (late 1970s or early 1980s)
Sun Chamical	Mansfield, MA chemical plant	25-galion cardboard drums with black powder residues that emitted chemica-Hike odor; some of the drums had red hazardous warning labels affixed; others appeared to have labels removed; 5-and 10-gallon cans with unknown residues	42-yd. packer	"off and on" once weekly stops with infrequent Site disposals	driver (1972-1985)	J.M. Mills Landill late 1970s-early 1980s
West Bridgewater Township	municipal transfer station	residential waste	approximately eight to ten packer boxes	sometimes once or weekly pick-ups of three or four loads that were taken to the Site	driver (1972-1985)	J.M. Mills Landfill late 1970s-early 1980s
West End Hub	manufacturer of bed springs	wire, metal springs and assorted shop waste	42-yd. packer	relief slops but no recollection of Site disposals	driver (1972-1985)	J.M. Mills Landfill late 1970s-early 1980s
Zayre's Warehouse	dov.ocode	recyclable paper and cardboard	42-yard packer	relief stops; recycable material to paper shop	driver (early 1970s-	paper recycling shop
	dry-goods warehouse	rubbish and pallets	42-yard packer	relief stops with infrequent Site disposals	19 96)	J.M. Mills Landfill (late 1970s or early 1980s)

0617-0159

Carrier Survey in Response to Request 5(a) for Cal's Enterprises, Inc. SUN CHEMICAL



								(
Transaction Bates No.	Transaction Date	Document Type	Document Number	Generator Name	Ţ	ransporter Address	Truck/Plate	Type of Truck	Check Amount
WM0.002355	7/20/78	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL		NOT INDICATED	33	NOT INDICATED	NOT INDICATED
				Dr	river Name:	TOM LOUNSBURY	Quanti	ty: 1.00	
					Time:	NOT INDICATED	Unit of Measu	re: LOAD	
				Supplemental	Bates No.:	NOT APPLICABLE			
WM0006763	7/20/78	ROLL OFF ROUTE MASTER	NOT INDICATED	SUN CHEMICAL		NOT INDICATED	33	NOT INDICATED	NOT INDICATED
	<i></i>			Dr	river Name:	: TOM	Quanti	ty: 1.00	
					Time:	NOT INDICATED	Unit of Measu	re: LOAD	
				Supplemental	Bates No.:	NOT APPLICABLE			
WM0:)05599	9/5/78	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL		NOT INDICATED	32	NOT INDICATED	NOT INDICATED
				Dr	river Name:	A. BABINEAU	Quanti	ty: 1.00	
					Time:	NOT INDICATED	Unit of Measu	re: LOAD	
				Supplemental	Bates No.:	NOT APPLICABLE			
WM0:)04159	7/24/79	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL MANSFIELD		NOT INDICATED	32	NOT INDICATED	NOT INDICATED
				Dr	river Name:	A. BABINEAU	Quanti	ty: 1.00	
					Time:	NOT INDICATED	Unit of Measur	e: LOAD	
				Supplemental	Bates No.:	NOT APPLICABLE			
WM0004585	8/23/79	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL MANSFIELD		NOT INDICATED	32	NOT INDICATED	NOT INDICATED
				Dr	river Name:	A. BABINEAU	Quanti	ty: 1.00	
					Time:	NOT INDICATED	Unit of Measur	e: LOAD	
				Supplemental	Bates No.:	NOT APPLICABLE			
WM0008202	9/27/79	ROLL OFF ROUTE MASTER	NOT INDICATED	SUN CHEMICAL		NOT INDICATED	19	NOT INDICATED	NOT INDICATED
				Dr	river Name:	LEN	Quanti	ty: 1.00	
				,	Time:	NOT INDICATED	Unit of Measu	e: LOAD	
				Supplemental	Bates No.:	NOT APPLICABLE			
WM0004468	10/1/79	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL MANSFIELD		NOT INDICATED	66	NOT INDICATED	NOT INDICATED
				Dri	iver Name:	JON PONTE	Quantit	ty: 1.00	
					Time:	NOT INDICATED	Unit of Measur	e: LOAD	
				Supplemental	Bates No.:	NOT APPLICABLE			
WM0004568	12/4/79	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL		NOT INDICATED	12	NOT INDICATED	NOT INDICATED
				Dri	iver Name:	808 ARRUDA	Quantit	y: 1.00	
					Time:	NOT INDICATED	Unit of Measur	e: LOAD	
				Supplemental	Bates No.:	NOT APPLICABLE		(0617-0160





Transaction Bates No.	Transaction Date	Document Type	Document Number	Generator Name	Transporter Address	Truck/Plate	Type of Truck	Check Amount
VM0004482	1/8/80	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL	NOT INDICATED	12	NOT INDICATED	NOT INDICATED
					Driver Name: BOB ARRUDA	Quanti	ty: 1.00	
					Time: NOT INDICATED	Unit of Measu	re: LOAD	
				Supplement	al Bates No.: NOT APPLICABLE			
WM0003596	2/6/80	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL MANSFIELD	NOT INDICATED	19	NOT INDICATED	NOT INDICATED
Marginalla / D	escription: SU	IN CHEMICAL MANSFIELD (JA	MBED LOAD, PALLATS, B	ARRELS)	Driver Name: LENNY GOMEZ	Quanti	ty: 1.00	
					Time: NOT INDICATED	Unit of Measu	re: LOAD	
				Supplement	al Bates No.: NOT APPLICABLE			
WM0003836	4/17/80	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL	NOT INDICATED	26	NOT INDICATED	NOT INDICATED
					Driver Name: J. NEWBURY	Quanti	ty: 1.00	
					Time: NOT INDICATED	Unit of Measu	re: LOAD	
				Supplement	al Bates No.: NOT APPLICABLE			
VM0005428	9/15/80	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL	NOT INDICATED	12	NOT INDICATED	NOT INDICATED
			•		Driver Name: BOB ARRUDA	Quanti	ty: 1.00	
					Time: NOT INDICATED	Unit of Measu	re: LOAD	
				Supplement	al Bates No.: NOT APPLICABLE			
VM0005491	10/17/80	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL, MANSFIELD	NOT INDICATED	20	NOT INDICATED	NOT INDICATED
					Driver Name: A. BABINEAU	Quanti	ty: 1.00	
					Time: NOT INDICATED	Unit of Measu	re: LOAD	
				Supplement	al Bates No.: NOT APPLICABLE			
WM0()05071	11/12/80	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL MANSFIELD	NOT INDICATED	33	NOT INDICATED	NOT INDICATED
					Driver Name: TOM LOUNSBURY	Quanti	ty: 1.00	
			•		Time: NOT INDICATED	Unit of Measu	re: LOAD	
				Supplement	al Bates No.: NOT APPLICABLE			
WM0(-04908	12/15/80	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL	NOT INDICATED	12	NOT INDICATED	NOT INDICATED
					Driver Name: BOB ARRUDA	Quanti	ty: 1.00	
					Time: NOT INDICATED	Unit of Measur	e: LOAD	
				Supplement	al Bates No.: NOT APPLICABLE			
VM0C04780	1/26/81	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL	NOT INDICATED	12	NOT INDICATED	NOT INDICATED
					Driver Name: BOB ARRUDA	Quanti	ty: 1.00	
					Time: NOT INDICATED	Unit of Measur	e: LOAD	
				Supplement	al Bates No.: NOT APPLICABLE		0	617-0161

hilv 1 1999 Paire 617 of 664





Transaction Bales No.	Transaction Date	Document Type	Document Number	Generator Name	Transporter Address	Truck/Plate	Type of Truck	Check Amount
WM0004672	3/6/81	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL	NOT INDICATED	19		NOT INDICATED
				Di	river Name: LENNY GOMEZ	Quant	ity: 1.00	
					Time: NOT INDICATED	Unit of Measu	ire: LOAD	
				Supplemental	Bates No.: NOT APPLICABLE			
WM0:)04860	4/15/81	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL	NOT INDICATED	12	NOT INDICATED	NOT INDICATED
				Di	river Name: BOB ARRUDA	Quant	ity: 1.00	
					Time: NOT INDICATED	Unit of Measu	re: LOAD	
				Supplemental	Bates No.: NOT APPLICABLE			
WM0-)03987	6/2/81	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL	NOT INDICATED	12	NOT INDICATED	NOT INDICATED
				Dr	river Name: BOB ARRUDA	Quanti	ity: 1.00	
					Time: NOT INDICATED	Unit of Measu	re: LOAD	
				Supplemental	Bates No.: NOT APPLICABLE			
WM0007632	7/15/81	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL	NOT INDICATED	26	NOT INDICATED	NOT INDICATED
			,	Dr	river Name: JN	Quanti	lty: 1.00	
					Time: NOT INDICATED	Unit of Measu	re: LOAD	
				Supplemental	Bates No.: NOT APPLICABLE			
WM0007681	9/10/81	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL MANSFIELD	NOT INDICATED	33	NOT INDICATED	NOT INDICATED
				Dr	iver Name: TOM L.	Quanti	ity: 1.00	
					Time: NOT INDICATED	Unit of Measu	re: LOAD	
				Supplemental	Bates No.: NOT APPLICABLE			
WM0007759	10/28/81	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL	NOT INDICATED	34	NOT INDICATED	NOT INDICATED
				Dr	Iver Name: MIKE SHEA	Quanti	ty: 1.00	
					Time: NOT INDICATED	Unit of Measu	re: COMPACTOR	
					Bates No.: NOT APPLICABLE			
WM0007904	12/11/81	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEMICAL MANSFIELD	NOT INDICATED	33	NOT INDICATED	NOT INDICATED
				Dr	Iver Name: TOM L	Quanti	ty: 1.00	
•					Time: NOT INDICATED	Unit of Measu	re: LOAD	
···			· · · · · · · · · · · · · · · · · · ·		Bates No.: NOT APPLICABLE			
WM0007823	2/22/82	DRIVERS DAILY REPORT	NOT INDICATED	SUN CHEM	NOT INDICATED	26	NOT INDICATED	NOT INDICATED
				Dr	Iver Name: JN	Quanti	ty: 1.00	
					Time: NOT INDICATED	Unit of Measu	re: LOAD	
				Supplemental	Bates No.: NOT APPLICABLE		0617-0	1.62

Carrier Survey in Response to Request 5(a) for Cal's Enterprises, Inc. SUN CHEMICAL



Transaction Bates No.	Transaction Date	Document Type	Document Number	Generator Name	Transporter Address	Truck/Plate	Type of Truck	Check Amount
WMG006013	4/8/82	ROLL OFF ROUTE MASTER	NOT INDICATED	SUN CHEMICAL	NOT INDICATED	12	NOT INDICATED	NOT INDICATED
					Driver Name: BOB ARRUDA	Quanti	ty: 1.00	
					Time: NOT INDICATED	Unit of Measu	re: LOAD	
				Supplemen	Ital Bates No.: NOT APPLICABLE			
WMC007073	4/8/82	ROLL OFF ROUTE MASTER	NOT INDICATED	SUN CHEMICAL	NOT INDICATED	NOT INDICATED	NOT INDICATED	NOT INDICATED
	/				Driver Name: BOB ARRUDA	Quanti	ty: 1.00	
					Time: NOT INDICATED	Unit of Measu	re: LOAD	
		•		Supplemen	tal Bates No.: NOT APPLICABLE			

(($(\widehat{(}\widehat{\ \ }\widehat{\ \ }))$	
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DATE:	DATE: 1-12-1980 DRIVER: (1. Behaven TRUCK 166 TOTAL HOURS WORKED: HOURS LUNCH:														
SPEEDOMETER: START 58635 FINISH 58807 FUEL: 3/ GALS. OIL: QUARTS:															
	WRITTE						TIHE P	UNCHED	ON TIM	E CARD					
START	FINISK				DES	RIPTION							Hours	CODE	
7:02	9:00	, Zu	elt	mela	- Tax	Tan	lilue	mi	th 1	L	n is	los	2		
l'.	7:02 9:00 tuel tunder, Townson Silversmith to paper shop 9:00 11:30 General Printing Jak, Mansfield to Wills												242		
1/130	11:30 2:30 Forter Fales Wildows to Wills														
2:30	4:00	I.A.	1 /1/	Ma "	acen	Type	met		to P	roud	ince	Sarag 4	and 1/2		
4:00															
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0617-0165

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DATE:	7-20	78 DRI	ver :	m for	undbur	ruck #_	33	_TOTAL I	iours wor	KED:		HOURS LU	NCH:	
SPEED	OMETER:	START/	9 <i>46</i> 06	o Finish_	9477	FOEL:	43	_GALS.	OIL:		QUARTS	3:		
B - Ro	icker Tr oll-off indfill	uck Operator	E	- Haulin - Paper - Trucki	Trucking									
START	FINIS	н			DES	CRIPTION							HOUR:	S CODE
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	5 70950 000		O.B. L.
		01639	7T
# SR		1 1 1	

COUNT

DATE:	DATE: 9-5-1978 DRIVER: G. Balineaustruck 1 52 TOTAL HOURS WORKED: HOURS LUNCH:														
SPEED	OMETER:	START_	2869	FINISH_	3002	FUEL:	33	_GALS.	OIL:		QUARTS	:			
B - R	acker Tr oll-off andfill		E	- Haulin - Paper - Trucki	Trucking				**************************************						,
START	FINIS	H			DES	CRIPTION							Н	ours	CODE
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DATE:	7-24-19	2 <i>9</i> dri	ver: <u>A</u>	Bake	ican I	RUCK #	32	_total b	IOURS WOR	KED:	13	HOURS L	unch:		୬ Û [] ——
SPEEDO	OMETER: S	tart <u>9</u>	6901	_finish <i>9</i>	7049	FUEL:	44	_GALS.	OIL:		QUARTS	3 :			
B - Ro	acker Truc oll-off andfill Op		E	- Haulin - Paper - Trucki	Trucking										
START	FINISH				DES	CRIPTION	<u> </u>						7	HOURS	CODE
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DATE:	8-23	/ <i>979</i> dri	ver: <u>G</u> .	Balu	nant	RUCK #	<i>3</i>	_TOTAL H	IOURS WOR	KED:	1/2	HOURS LU	лсн:		
SPEEDO	OMETER:	START_9	9465	FINISH 9	9403	FUEL:	35,3	_GALS.	01L:		QUARTS	: <u> </u>			
B - Ro	icker Tr oll-off indfill		E		g to Land Trucking								- ,		
START	FINIS	К			DES	CRIPTION							T i	HOURS	CODE
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2:15	4:1	5 Bu	Then	. H	enste	ld (Hou	and !		1 20	ille		- 1	2	
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COPY

	DATE:	/27/79 ROLL	<u> </u>	OUTE MASTER	MAK	Cale	, ing Cent		Batch # Ap	proved:				
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7	11. Ra 12 #3	16 Gents -	4		582592	0000	7742			<u> </u>	 	726	aci	<i>52</i>
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_	armstors #	Craintie	-		503874	2001	7743					745		
~	amistroyer &	Braintie	4		50387		5143			<u> </u>	<u> </u>	1/24		
.,	lan.	Broken			574881	0000	7742						cher	
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`	Sien 1	Boston	4		574880		5142	尸	0069	130	 		A.	
	HITEL Just	+ Stig Strugton	4		287 610	10000	गामुर		,	 	[l		<u></u>
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_	DATE:	// // 7 OMETER: \$		\]										JNCH :		
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4%	12:15 Codex Mansfield # 1 to J.M. Wills													C.	7	
1	12:15 3:00 Sun Chemical Mansfield to J.M. Mills														∏ • 🐧 .	
	3:00 6:30 Halliday Laho Hanover to (on tak)														7 -	
	3.00 6.30 Mallistry June Transver to (on me)														2	
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DATE:	12-4	DR]	ver:	BH (.	mude T	RUCK #	12.	_TOTAL H	OURS WOR	KED:	//_	HOURS LU		
SPEED	OMETER:	START_	P3F7f	FINISH /	73654	FUEL:	30	_GALS.	01L:		QUARTS	:		
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					TIVIZ	,								

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DATE: 8	DRIVER: Bof Conude	TRUCK 1/2	_TOTAL HOURS	WORKED: /C	Hours	LUNCH:
SPEEDOMETER:	start <u> 19197</u> finish 26	FUEL:/47& 20	_GALS. OIL:	<u> </u>	_QUARTS:	

TIME WRITTEN ON DAY SHEET SHOULD AGREE WITH TIME PUNCHED ON TIME CARD TURN IN SLIPS FOR ALL WORK DONE EACH DAY.

START	FINISK		DESCRIPTION											CODE	_
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345	415	6	wor		•					54	000		12		
45	445		Elis		Lines	· Zi	st -	- si	Budle	es &	101	2	2/2		
6 × 5	200	o.	hich	out	Tun	ch							1/2		
	10110-334865)														
7 am													/2		
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10	/				THIS	SECTI	N FOR	OFFICE	USE ON	L.Y	1	† 1	·····		
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12/4															
ACA	AJC	ACB	ACB	AGA	AJC	AJF	ACG	ACG	ACG	AJG	AGG	AGG		0617-01	173

CAL'S ENTERPRISES - DRIVERS DAILY REPORT	CORNE IND
DATE: 2-6-80 DRIVER LEMY STATE TRUCK 1 19 TOTAL HOURS WORKED: 10 HOURS LUNCH:	COPY
SPEEDOMETER: START 180443 FINISH 1F06/OFUEL: 2596 GALS. OIL: QUARTS:	

TIME WRITTEN ON DAY SHEET SHOULD AGREE WITH TIME PUNCHED ON TIME CARD TURN IN SLIPS FOR ALL WORK DONE EACH DAY.

START	FINISH				DES	CRIPTION					 :		но	URS	CODE	
700	730	de	anne	Conte	L Zived	i du	Pet-	<u> </u>					1	/ <u>{</u>	18	
230	900	tall	long	from	Pit							mut	De 1	1/2	8	
900	12/3	- 7	stee	Parle	<u></u>	mil	ford					nich	15 3	1/4	B	
1215	230	Su	n de	misa,	1-)	Manz	tell-	Can	bed Co	of Bo	flots	will	5 2	1/4	B	İ
230	400	Ja	More.	- SU	ansh	ill	·	A	·			Pho	1/	1/2	15	
400	440	1G	up !	Busa	clow	- (Rear	•						3/4	B	l
445	500	Sea	me	Zu	el > c	Mu	lest							14	B	
														_		
								·· ······ ······					1/	2		
	<u> </u>					· · · · · · · · · · · · · · · · · · ·					· · · · · · · · · · · · · · · · · · ·					
	<u> </u>												_			
						···				j.	1000					
	<u> </u>															٠.
					THIS	SECTIO	ON FOR	OFFICE	USE ON	LY	,					
1011D	1144D	1013C	1013D	1111E	1144E	1147	1011R	10117	1013V	1147V	1116V	11117				
101	1									<u></u>				i	0617-	-0174
ACA	AJC	ACB	ACB	AGA	AJC	AJF	ACG	ACG	ACG	AJG	AGG	AGG				

DATE:	4/17	DRIVER	1-1	TRUCK OF				KED:		HOURS LUN	ICH:		
SPEEDO	METER: S	tart <u>4750</u>	FINISH47	69 FUEL: _	91	_GALS. (oil: <u> </u>		QUARTS	·	<u> </u>		• —
		ON DAY SHEE			TIiE P	UNCHED	ON TIM	E CARD					
START	FINISK			DESCRIPTION							HOURS	CODE	
7	730	tous	3 w	nld-	NO 9	2	Kost	<i>*</i>			1/2	D	
73	95	Cala	X	wills	W		Tugs	haro		/ /	Por	18] '
915	112	Lace	10%	Thela	8 /	X	Xul	Vi 32	w	10ths	12/4	B	1
113	280	Mille	28.	Jeen (leen	. 2	8 7	will	1 or	dito	31/4	18	1
glis	445	Mans	lald	XTA	MARI	leis	10kg	ruse	uto	2/1	92	@] .
45	453	Fresh	20	Some	0		<u> </u>	Ø			1/2	0	1
-		1									1/		
		10											1
	 	<u> </u>											† \
	 								·· ···· ···				† '
	 	 	·-·			· · · · · ·							1 €
		 				· · · · · · · · · · · · · · · · · · ·					_		† i
									<u> </u>				1
	·	<u> </u>		THIS SECTI	ON FOR	055105	HCE ON			······	1	<u> </u>	,
1011D	1144D	1013C 1013D		THIS SECTION	1011R				1116V	11117			1
70770		10100		1.5	1-0-1-1		10101		F	 			4 .

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DATE: 9-15 DRIVER: 13 Common TRUCK 1 / CO TOTAL HOURS WORKED:	HOURS LUNCH:
SPEEDOMETER: START 163060 FINISH/63/8/ FUEL: 39-29 GALS. OIL:	QUARTS:

START	FINISK				DES	CRIPTION							HOURS	CODE
7"	82		10-		1	errie	٠							
800	930	-	Vax.	Biso	it -	The same	/ -			ak	mal		13	
930	11 45	-	Lun	OK	mice	el				mill			2 7	
1185	185	7	18 0	Buran	+ 500	/		- 4	ortor	/-	Pelot	Col	2	
15	3 15	1	mini	-	Nous	1 de	- /			54	/		1/2	
315	515	-	Fern	ande	·	m	ill.			34			3	
5 15		1	Pedus	2						U)			
			<i>Y</i>			11	111	2	35	2 ru	eg 1	34	OT	
							2/3	7) -	- 4	15 (
							, ,		100	sea	13	3/2	07	
								· · · · · · · · · · · · · · · · ·		U				
7 del	52/	2												
	1.	'												
					THIS	SECTIO	ON FOR	OFFICE	USE ON	LY				
1011D	1144D	1013C	1013D	1111E	1144E	1147	1011R	1011V	1013V	11477	1116V	11117		
10/1	/].		1	(17.0)
ACA	AJC	ACB	ACB	AGA	AJC	АЈГ	ACG	ACG	ACG	AJG	AGG	AGG	– <i>U</i>	617-0176

DATE:/ <u>0-17-/</u>	980 driver: 4	Babine	TRUCK #_	20	TOTAL H	IOURS WORK	ED:HOURS	ŁUNCH:	
SPEEDOMETER:	START 160%	? FINISH <u>/ 63</u>	Of FUEL:	46	GALS.	oil:	QUARTS:		
TIME WRITTE	EN ON DAY SH	EET SHOULD A	AGREE WITH	TIHE	PUNCHED	ON TIME	CARD		

START	FINISK	:			DES	CRIPTION							HOURS	CODE
5:49	9:00	o For	Ten 2	nhe	Mes	ford	to	Mil	4				3/4	
9:00	11:30	10	Ch	embe	1,	Many	field	12	mel	<u> </u>			2/2	
11:30	1:30	Ter	nand	(n #1	Hor	in /	′ ~~				Lon	yearton	1 2	
1:30	3:00	Par	ago.	Se.		to 1	sunte	a far	Spir	4 1	(<i></i>	1/2	
3:00		Pii	Lup	en	ty s	anges	etor.	at 1	Ruse	in do	X.	change	e	
	5:15	- Bas	eme	21	Za.	emp	Ty of	pape	- 1	100			24	
5:15	7:4	5 2/	elle	ay, il	0 .		L. L.	- 72a	nen	sla	0			
7:45	Pio	174	el	Tuc	1	/		, //					1/4	
								· <u>-</u>						
														
	1	ł											ļ.	1 1
	<u> </u>			· · · · · · · · · · · · · · · · · · ·	THIS	SECTIO	ON FOR	OFFICE	USE ON	LY				
1011D	1144D	1013C	1013D	1111E		SECTION 1147	ON FOR	1	USE ON 1013V	LY 1147V	11167	11111		
1011D	11440	1013C	1013D	1111E			1	1		1	11160	11117		

DATE:_	11-13	- FQ _{RI}	ver:	m fo	unsleg	RUCK #	<i>3</i> 3	_total h	ours wor	KED:		HOURS LUNG	CH :	- 11
SPEEDO	METER:	START 28	20216	Pinish_	05/4	fuel:		_GALS.	01L:		_QUARTS	:		
				T SHOUL			TIME P	UNCHED	ON TIM	E CARD				
START	FINISH				DES	CRIPTION							Hours	CODE
6,53	>	SI	reck	out	Tun	le T	Man	Turk	1	and	from	Bosto	7	
	8:00	en	velore	1 to	acu	shui	f la	offile		0				
8iK	x 145	-	ent/	back	Zo	Call	m	week	Cont	ca	dend	and	1	
8:45	10:0	o du	gud	locus	11	uni	O is	the	Apr	<u>. </u>				
16:00	12:5	15	e f	Za J	lun	Phe	mia	1/2	Men	Lild	1	Mil	16	
1,00		10	ut	6 11	Bi	lsewe	Tu s	Range	14	Cerryon	olos	Sach		
	31.15			cush	1	and								
3:15		d	unse	1	local	1/2	Ku 1	rolled		Cargos	do	cont.		
	3:4	5 pu	Lon	00	Lex	2 0	-ly	wort	lla	le I	Cal	29		
3,45	413	C)	becuse	· Sh		tine				Ж. :		<u>.</u>		
4:30		d		Open of	tus	To Y	Ding	4 a	nel	pick	A LA	load		
	61/5	5 0	ala	I le	ach.	to (26/1	and	solly	15				
6,30	7:05	; T T	Se	2184 A V		mil					10			
					THIS	SECTIO	ON FOR	OFFICE	USE ON	LY				
1011D	1144D	1013C	1013D	1111E	1144E	1147	1011R	1011V	1013V	1147V	1116V	1111V		
12													. ()617-0178
ACA	AJC	ACB	ACB	AGA	AJC	AJF	ACG	ACG	ACG	AJG	AGG	AGG		

DATE: 15 DRIVER: By Conned TRUCK 1/2 TOTAL HOURS WORKED: HOURS LUNCH:
SPEEDOMETER: START / 72329 FINISH 172529 FUEL: 32 - 44 GALS. OIL: Y QUARTS:
TIME WRITTEN ON DAY SHEET SHOULD AGREE WITH TIME PUNCHED ON TIME CARD

START	FINISH				DES	CRIPTION							HOURS	CODE
700			Cefra	l_		,								
215	945	B	Sh	1-	Rea	2-1	Bomfa	itor		m	rille		2/2	
945	12 43	- =	oster	Fo	shee	-			22	illa			3 1	
1245	35	1	un	ÖK	miea	e			_	nil	el_		2/2	
3/5	630	2	Eine	le		W	eloo (S	Los		3/4	
630	645		Lue &				7				0		1/4	
10 45		C	lang		Mar	+ 7	10							
			P	/										
						2//	7	37		real	43/4	6 07	~	
					16)/3/	<u></u>	<u> </u>		0	a 1/2			
								400	u	1	714	07		
700	1725	n							0					
					THIS	SECTIO	ON FOR	OFFICE	USE ON	ĿΥ				
1011D	1144D	1013C	1013D	1111E	1144E	1147	1011R	1011V	1013V	1147V	1116V	11117		0617.01
ねる														0617-01
ACA	AJC	ACB	ACB	AGA	AJC	AJF	ACG	ACG	ACG	AJG	AGG	AGG		



	-26		<u> رکن (</u> VER								F	IOURS LUN	ICH:	
SPEEDO	METER:	START/	7636[FINISH A	76 533 Tes	FUEL: Z	27-37	GALS. (OIL:	4	_QUARTS:			
B - Ro	cker Tru ll-off ndfill 0		E -	- Hauling - Paper 1 - Truckin	rucking	dfill								
START	FINISH		======================================		DES	CRIPTION							HOURS	CODE
70		1	Petre	e									1/4	
730	E 30	,	la	K	two	11	1st	tere	7				/	
p 30	930		only	ne (men	$_{-}V$	De	i no	y D.	0	ay u	i wa	11	
530	12 30		Pesen	el 1	Para	laser	<u>. </u>			nil	La.		3	
1230	330		lun	Chen	ucil		/		<u></u>	ill	4		3	
330	6'5	- 7	- erne	mle.		Wa	God	e -		Pa	-		2/4	
65		74	Pefu	el										
			7			101	10	3 7	7 1	41	3 3	0	>	
					-	101	3 D	3	3	0	23			
								40	nes	1	5	07		
<u> </u>									0					
7 30	10 Yo	2												
													N.	17/N
					THIS	SECTION	FOR OFFI	CE USE O	NLY	1		Υ	\mathcal{A}	2/W-
A	В	С	D	E	F	G	н	J	К	L	N	0	P	TOTALS
1134													 	0617-018
1011	1011D	1017G	1017Н	1018J	1011	1011	1011	1016Q	1017Q	1018Q	1019			0017-018

DATE:_	3-6.	E/DRI	VER: <u>6.6</u> 1	eny Su	TI	RUCK	19	TOTAL HO	OURS WORK	KED:	1844 OUARTS	HOURS LUI	NCH :			_
	WRITTE!										QUARTS					
	IN SLII															
START	FINISK		1		DESC	CRIPTION							НС	URS	CODE	
700	730	Se	unce -	Fuel	a .C	lecha	A +1	water						1/2	0	
730	845	Yas	4 Con	218							<u> </u>	mill	5	//	13	
845	1/30	Su	un Ch	1 Lener 2	J-		ruled	Lad)			mill	1. 2	1/2	B	
1136	230	des	Tu	Toch	<u></u>	8						mill	7	3	13	
230	515	1	walle	1	Lemons	42+	(4	Que su	tRy K	bad)		PSh	1 5	13/	3	
				. 		· · · · · · · · · · · · · · · · · · ·		. J	<i></i>							ŀ
							 			 .	······································			0%	4	
				······································						- 						
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						<i></i>										
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•											·					
•	<u> </u>															
					THIS	SECTIO	N FOR	OFFICE	USE ON	LY						
1011D	1144D	1013C	1013D	1111E	1144E	1147	1011R	1011V	1013V	1147V	1116V	11117	-	1		

AJC

ACB ACB

AGA

AJC

AJF

ACG

ACG

ACG

AJG

AGG

AGG

0617-0181



DATE: 4-15 DRIVER: Bol Conditruck 1/2	
SPEEDOMETER: START 184927 FINISH 185094 FUEL: 38	GALS. OIL:QUARTS:
TIME WRITTEN ON DAY SHEET SHOULD AGREE WITH TIME I	DINCUED ON TIME CARD

START	FINISH				DES	CRIPTION					-		HOURS	CODE
6													ኈ	
6'5	900	17	lat.	Bis	cuit	at-		•		mis	ela		23/2	,
900	11'5	-	Lun	C	Reme	-0				me	ela		2/2	
11.5	2 5		Foot	-	Forh	.s. –				mi	el-		≥′	
2.5	245		Helm	9	. P.	Sin	ho	<u> </u>	7 4				1/4	
215	400		xill		bac	1	*	4	R				1/2	
			Res	and				0						
600	4 pm	,												
					THIS	SECTIO	ON FOR	OFFICE	USE ON	LY				
1011D	1144D	1013C	1013D	1111E	T	1147	1011R	1	1013V	1147V	1116V	1111V		
11													0	617-0182
	AJC	ACB	ACB	AGA	AJC	AJF	ACG	ACG	ACG	AJG	AGG	AGG		



		CAL'S ENTERPRISES - DRIVERS DAILY REPORT		
DATE:	6 2	DRIVER: Bol Cornel TRUCK / 2 TOTAL HOURS WORKED: HOURS LUNC	H:	
SPEEDO	METER: ST	tart/89380 finish/85567 fuel: 46. 4 gals. oil: quarts:		
TIME	WRITTEN	ON DAY SHEET SHOULD AGREE WITH TINE PUNCHED ON TIME CARD		
TURN	IN SLIPS	FOR ALL WORK DONE EACH DAY.		
START	FINISK	DESCRIPTION	HOURS	CODE
100			- Er	
15	1000	Growing - Welluly - stently - mills	33/8	
, 000	12'5	Sun Clement - study - mills	2 %	
ə ′ 5 [—]	3 25	Gramming - Breintre - Retal - mille	3	
. 2	5-30	Fernand - Planielle - Stop	24	
30	6~	- Restruct - Service Int		

100 m THIS SECTION FOR OFFICE USE ONLY 1013C 1013D 1111E 1144E 1011V 1013V 11470 11160 1011D 1144D 1147 1011R 11117 0617-0183

ACG

ACG

ACG

AJG

AGG

AGG

AJC

ACB

ACB

AGA

AJC

AJF

11.5	Ω		
DATE:	DRIVER: TRUCK # H	TOTAL HOURS WORKED: HOURS LUNCH:	
1	00000 00000 01/12		
SPEEDOMETER:	START 390 FINISTON FUEL:4/	GALS. OIL:QUARTS:	

START	FINISH			• (PES	CRIPTION							HOUR	S CODE	T
5	46	V	leed	NO	You	7			<u> </u>		1		1/4	70	1
Co	7		Jel,	Za	7	lull	1 u	1 /4	lace	lac 1	Con	span	18	13	<u>'</u>]
7	103	2 7	ulls	Z	Le	m a	fun	X	The	RC,	30	utio	- 3	B	
	126	34	Cools	of a	#2	- 72	Due 3	flo !	b re	to	-1		2	13	
	30 5)	Muss	Liek	<u> </u>		nelf	nd	15		Mul	G	2/2	B	
3	513	0 7	fulk	1 60	H	Mail	LIR	Help	ar	Co	ans	4	21/2	6	1
		1/1	715	Tue	his	! Ci									
6	3-54	1	cel		Sen	1.							1/4	@	-
													/ /		
															
	34		· · · · · · · · · · · · · · · · · · ·									······			
1/46	511									·····			ļ	<u> </u>	
	1											WMC	0007632		
			<u> </u>		THIS	SECTIO	ON FOR	OFFICE	USE ON	LΥ		_	-		
1011D	1144D	1013C	1013D	1111E	1144E	1147	1011R	10117	1013V	11470	11167	11117	- 0	ر الاراك	1
12	}												1_		1
ACA	AJC	ACB	ACB	AGA	AJC	ΑJΓ	ACG	ACG	ACG	AJG	AGG	AGG			

CAL'S ENTERPRISES - DRIVERS DAILY REPORT	COPY
DATE: 9-10-81 DRIVER: John S. TRUCK # 33 TOTAL HOURS WORKED:	HOURS LUNCH:
SPEEDCMETER: START 20946 FINISH 2/122 FUEL: GALS. OIL:	QUARTS:
TIME WRITTEN ON DAY SHEET SHOULD AGREE WITH TIME PUNCHED ON TIME CARD	

TURN IN SLIPS FOR ALL WORK DONE EACH DAY.

START	FINISK				DES	CRIPTION	1						Hours	CODE
5143	6:00		heck	ou	1	tuu	b							
6:00		l.u	rent	Z S	Te	louis	Mal	heook	sk	ange	con	macto	2	
	9.00	15	min	- Cle	an le	10	Then	Too	h	local	In.	rill		i
9:00		دا	dun	Ches	nica	0 2	Nans	ield	to	MI	M	15 M	in.	
	12:16	1	cle	er.	w n	ness	gu Q	romo						
12:30	2:48	Su	rent	Tu '	Da	tel.	man	stilo	1 to	M	ille.			
2:45			wit	ti.	Qu	ellet	Siste	CK	ttle	row	ska.	ngf		
		Con	reac	to 2	pring c	te	Cle	an u	sp _	the .	back	te		
	5:15	Ca	L's	·										;
5:15	1:01		shings	del	oad	94	serer	ed.	Truc	6				3
V 10	143 / X			_									į	l
<u> </u>	5 /5/								. 					
<i>y </i>	10 / × 1													
	10 / 2 /											WMO	007681	
					THIS	SECTIO	ON FOR	OUTICE	USE ON	Į.Y		WMod	007681	
		1013C	1013D	1111E		SECTION 1147	ON FOR	OFFICE 1011V	T	T	1116V	WM00	007681	
		1013C	1013D	1111E			T	T	T	T	1116V	1	007681	

DATE: /1/28/8/	DRIVER: The	TRUCK	TOTAL HOURS	WORKED:	HOURS LUNCH:	
SPEEDOMETER: STA	rt <u>/76 40</u> Finish/7867	FUEL: 42.	_GALS. OIL:	2-	QUARTS:	

START	FINISK			·	DES	CRIPTION							HOURS	CODE
557	6:30		()	Tan	ck									
7:45	815	1	7-	8-	aten (, , , , , , , , , , , , , , , , , , ,	line	"t	7 /	17 1	Ball.			
845	11:16	Luc		Luice	1-	MT	- <i>C</i>	nacti	d ut	1 3	an m	ill.		
11 10	1.00	lo	uucas	Mis	T -	Chan	as C	marc	to 7	0	11 1	Melle		
1:45	3:50	. C.	(. n . n	16.	<i>!</i> -	17.11	- 0.7	- (B)	tul)	1 6 w	te St	t. Steel	,	
4:30	200	7	outh	For	A.	- Ch	e) Kark a	(3	meter	til.	11	med !		
702	2.25		Fi.		-/1	uck						<u>/</u>		
-								· · · · · · · · · · · · · · · · · · ·						
				····								·		
												WM	0007759	
					THIS	SECTIO	ON FOR	OFFICE	USE ON	I.Y				
1011D	1144D	1013C	1013D	1111E	1144E	1147	1011R	1011V	1013V	1147V	1116V	11117		
いろ													0617-0	0186
ACA	AJC	ACB	ACB	AGA	AJC	AJF	ACG	ACG	ACG	AJG	AGG	AGG		

DATE: 12-11	S/DRIVER: 1000 S. TRUCK # 33 TOTAL HOURS	WORKED: HOURS LUNCH:
SPEEDOMETER:	START 33/9/FINISH 53.397 FUEL: 43,9 GALS. OIL:	QUARTS:

START	FINISH	i _		1	DES	CRIPTION	4						HOURS	CODE
5152	6:16	- 0	lieck	OUT		tuck								
6:15	9130) in	ent is	6 70	CITI	Ska	ncy	come	relo	Rece	le t	to Mell		
9:130		- en	ent.	Ze J	Lun	Ples	nical	Im	anslo	ild -	Took			Ť.
		lan	ad J	6 1	Mill	45	Milie		an on	1	oool	out		t t
	1:00	1	L.	Inch	Lo	بمل	in Ch	demic	ref					
1:00			west	. Ho	of ox	the c	Hoch.	es 1/4	Vildou	1 A	ach	7		
	4:00	M	ille		_									
4,00	5:30	,,,,	ut	beck	The	Cal	1							
5/30	6:00	1	orruc	ed	trus									
·								·						
•												— \A/\A(\)	007904	·
	<u> </u>		_									VVIVIO	00,00	
			÷,		THIS	SECTI	ON FOR	OFFICE	USE ON	LY				
1011D	1144D	1013C	1013D	1111E	1144E	1147	1011R	1011V	1013V	1147V	1116V	1111V	_ 06/	>
12%		 											1	,0 ₁₈ >
ACA 7	AJC	ACB	ACB	AGA	AJC	AJF	ACG	ACG	ACG	AJG	AGG	AGG		

DATE:	HAA ISLAND	DRIVER:	12 -	TRUCK # DE	TOTAL HOURS WORKED	e:Hours Lui	NCH:		-
SPEED	OMETER:	START 96979	FINISH 744	FUEL: 14.1	CALS. OIL:	QUARTS:			
		N ON DAY SHEE PS FOR ALL WO			PUNCHED ON TIME (CARD			
START	FINISK			DESCRIPTION			HOURS	CODE	
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SUN CHENICAL COMPANY CC & FORBES IND PK ATTN MR HELFONT 02048

ACCOUNT NO. ACCOUNT NO.

PAGE NO.

INVOICE DATE 7-30-0465 7-27-78

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PLEASE REMIT TO

SCA DISPOSAL SERVICES OF NEW ENGLAND, INC. CALS DIVISION PADELFORD STREET ASSONET, MASS. 02702

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SUN CHEMICAL CUMPANY CC & FURBES IND PK

MANSFIELD MASS ATTN MR HELEONT

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ACCOUNT NO

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SCA DISPOSAL SERVICES OF NEW ENGLAND. INC. CALS DIVISION
PADELFORD STREET

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SUN CHEMICAL COMPANY CC & FURBES IND PK MANSFIELD MASS ATTN MR HELFONT

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SCA DISPOSAL SERVICES OF NEW ENGLAND, INC. CALS DIVISION

PADELFORD STREET ASSONET, MASS. 02702

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ACCOUNT NO. 578040

SUN CHEMICAL COMPANY CC & FORBES IND PK

MANSFIELD MASS

ATTN MR HELFONT

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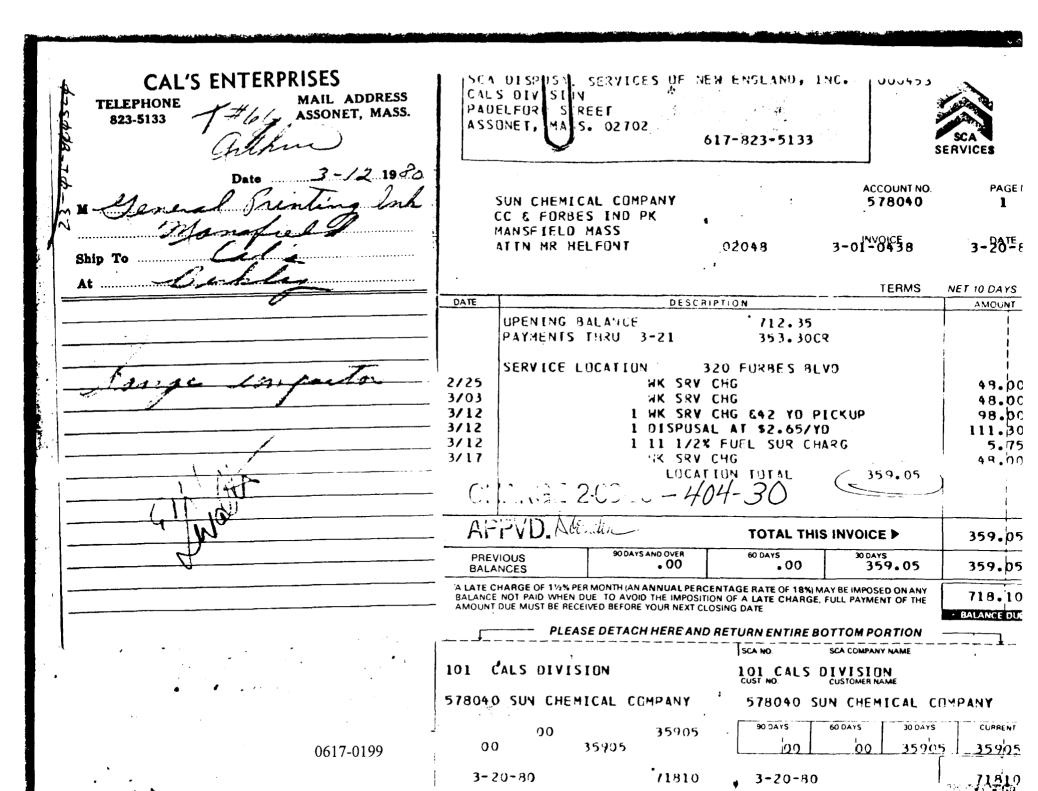
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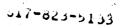
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CALS DIVISION ASSUNET, MASS. 02702 ATTN MR HELFONT

101 CALS DIVISION

578040- SUN CHEMICAL COMPANY

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SCA JISPOSAL SERVICES OF NEW ENGLAND. INC. PACELFURD STREET

000469

617-823-5133

& FURBES INU PK MANSFIELD MASS

G2048

10-01-0457

101 CALS DIVISION CUSTOMER NAME

30 DAYS

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40705

578040 SUN CHEMICAL COMPANY

30 DAYS

35905

ACCOUNT NO

578040

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IT AVOID FITANCE CHARGE PLY BY 1/21/91.

SUN CHEMICAL COMPANY CC & FORERS IND PK MANGETELD MASS ATTN MR HELEDUT

12-24-80

YOUR CHECK NUMBER.

ACCOUNT NO. 578040

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PAGE NO.

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12-94TE 90

CHARGE 2-09-10-404-30

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PLEASE DETACH HERE AND RETURN ENTIRE BOTTOM PORTION						
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SCA DISPOSAL SERVICES OF NEW ENGLAND, INC. CALS DIVISION

PADELFORD STREET ASSONET, MASS. 02702

617-623-5133

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TO AVUID FINANCE CHARGES FAY BY 3/18/81

SUN CHEMICAL COMPANY CC & FORBES IND PK MANSFIELD MASS ATTN MR HELFONT

ACCOUNT NO. 578040

PAGE NO.

2-01-0429

2-19-81

			TERMS	NET 10 DA	YS
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	OPENING BALANCE	599.05		***	<u> </u>
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1	SERVICE LOCATION 320	FORBES BLVD)		
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101 CALS DIVISION

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2-19-81 55105 101 CALS DIVISION CUSTOMER NAME

578040 SUN CHEMICAL COMPANY

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SCA DISPOSAL SERVICES OF NE CALS DIVISION PADELFORD STREET ASSONET, MASS. 02702

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PLEASE REMIT TO

CALL DISPUSAL SERVICE OF NEW ENGLAND, INC.

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TU AVUID FINANCE CHARGES PAY BY 4/22/HI

SUN CHEMICAL CUMPANY CC & FURBES IND PK MANSFIELD MASS ATTN MP HELFUNT

ACCOUNT NO. 578040

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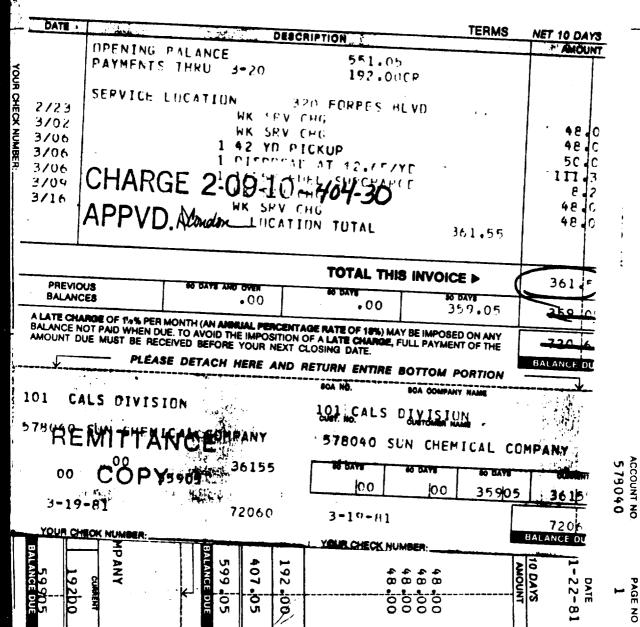
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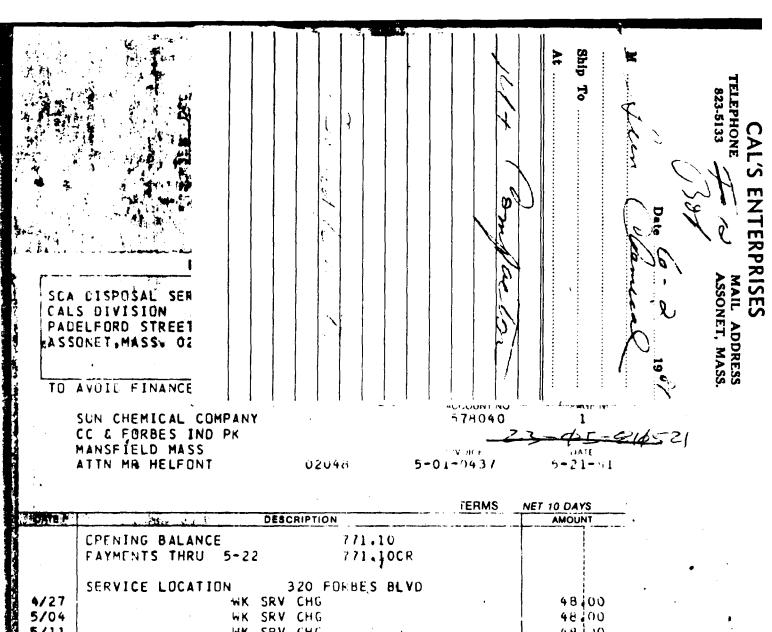
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617-623-5133

ACCOUNT NO. PAGE NO. SUN CHEMICAL COMPA Y 578040 1 CC & FIRRES IND PH " # A" MANSFIELD MASS INVOICE DATE ATTN MA HELFOLT 02045 4-01-0436 4-23-81 ET 10 DAYS DATE DESCRIPTION AMOUNT EPFNING MALAKCE 720.60 PAYMENTS THRU 4-24 359.05CR SERVICE LOCATION 320 FORBES BLVD 3/23 3- V CH6 MAY 48400 3/30 SF V CHG 48.00 4/06 JKV CHG 48400 SAV CHG 4/13 WK. 48400 YU PICKUP 4/15 1 42 50 100 4/15 1 DISPUSAL AT \$2.65/YD 111430 4/15 16.5% FUEL SURCHARGE 8 25 4/20 SKV CHG 48 100 L'CATIUL TUTAL 409.55 OTAL THIS INVOICE > 409 (55 DAYS 361.55 -00 361 (55 15% PER MONTH (AN AMNUAL PERCENTAGE RATE OF 18%) MAY BE IMPOSED ON ANY BALANCE NOT PAID WHEN DUE. TO AVOID THE IMPOSITION OF A LATE CHARGE, FULL PAYMENT OF THE AMOUNT DUE MUST BE RECEIVED BEFORE YOUR NEXT CLOSING DATE. BALANCE DU PLEASE DETACH HERE AND RETURN ENTIRE BOTTOM PORTION SCA NO. SCA COMPANY NAME 101 CALS DIVISION 101 CALS DIVISION 578 PLE MINTENEATENE EUMPARY 578040 SUN CHEMICAL COMPANY SO DAYS O DAYS COP ¥6155 40955 100 36155 40955 :00 77110 ANCE DUE 77110 4-23-81 4-23-81

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578040 SUN CHEMICAL COMPANY

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DISPUSAL SERVICES OF NEW ENGLAND, INC.

DIVISION

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RSSONET, MASS & 02702

000450



617-823-5133 TD AVOID FINANCE CHARGES PAY BY 7/22/81 ACCOUNT NO SUN CHEMICAL COMPANY 578040 1 CC & FORBES IND PK MANSFIELD MASS INVOICE 0/414 CHARGE 2-09-101-904 -ATTN MR HELFONT 6-18-31 بالرياسية **TERMS NET 10 DAYS** AMOUNT OPENING BALANCE 192.00 PAYMENTS THRU 6-19 SERVICE LOCATION 320 FORBES BLVD 5/25 WK SRV CHG 48400 48 00 50 00 6/01 WK SRV CHG 6/02 1 42 YD PICKUP 6/02 1 DISPOSAL AT \$2.657YD 111 (30 6/02 H 125 1 16.5% FUEL SURCHARGE 80\6 WK SRV CHG 4H 100 6/15 WK SRV CHG 48400 LOCATION TOTAL 361.55 TOTAL THIS INVOICE > 361. 55 SO DAYS AND OVER SO DAYS PREVIOUS .00 .00 192.00 165 400 BALANCES A NATE CHARGE OF 1/2% PER MONTH (AN ANNUAL PERCENTAGE RATE OF 16%) MAY BE IMPOSED ON ANY <u>553455</u> BALANCE NOT PAID WHEN DUE. TO AVOID THE IMPOSITION OF A LATE CHARGE, FULL PAYMENT OF THE AMOUNT DUE MUST BE RECEIVED BEFORE YOUR NEXT CLOSING DATE. BALANCE DUE PLEASE DETACH HERE AND RETURN ENTIRE BOTTOM PORTION 101 CALS DIVISION

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578040 SUN CHEMICAL COMPANY

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SCA EISPUSAL SCRVICES OF REA ENGLAND, INC. DALS DIVISION

PADELFORD STREET ASSONET, MASS. 12702

517-023-5133



TO AVEID FINANCE CHARGE PAY BY 0-24-51

SUN CHEMICAL COMPANY CC & FIRES IND PR MANSFILLE MASS ATTA ME HELFORE ACCOUNT NO 573040

PAGE NO.

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SCA DISPOSAL SERVICES OF NEW ENGLAND, INC.

CALS DIVISION PADELFORD STREET ASSONET, MASS. 02702

617-823-5133





TO AVOID FINANCE CHARGE PAY BY 9/23/81

ACCOUNT NO. 578040

PAGE NO.

SUN CHEMICAL COMPANY CC & FORBES IND PK

MANSFIELD MASS ATTN MR HELFONT

INVOICE 02048 8-01-0451

DATE 8-20-81

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PLEASE REMIT TO

SCA DISPOSAL SERVICES OF NEW ENGLAND, INC. CALS DIVISION

PADELFORD STREET
ASSUNET, MASS. 02702

617-823-5133

000452

TO AVOID FINANCE CHARGES PAY BY 10-21-31

SUN CHEMICAL COMPANY CC & FORBES IND PK MANSFIELD MASS ATTN MR HELFONT 578040

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02048

INVOICE 9-01-0447

ACCOUNT NO.

9-24-

				TERMS	NET 10 DAY
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		LOCA	TION TOTAL	409.55	
			TOTAL THIS	NVOICE >	409
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		CEIVED BEFORE YOUR NE		- r r r m - i v i V i i i i i -	1 '

PLEASE DETACH HERE AND RETURN ENTIRE BOTTOM PORTION

BCA NO. BCA COMPANY NAME

101 CALS DIVISION

101 CALS DIVISION

578040 SUN CHEMICAL COMPANY

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SCA DISPUSAL SERVICES OF NEW ENGLAND, INC.

CALS DIVISION PADELFORD STREET ASSONET, MASS. 02702

617-823-5133

02048



TO AVOID FINANCE CHARGES PAY BY 11-18-81

SUN CHEMICAL COMPANY CC & FORBES IND PK MANSFIELD MASS ATTN MR HELFONT

ACCOUNT NO. 578040

INVOICE

PAGE

10-01-0435

DATE 10-22-

				TERMS	NET 10 DAY	3
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101 CALS DIVISION

101 CALS DIVISION CUSTOMER NAME

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578040 SUN CHEMICAL COMPANY

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10-22-81

60155

10-22-81

6015 BALANCE DL

YOUR CHECK NUMBER:

0617-0214

SCA DISPOSAL SERVICES OF NEW ENGLAND, INC.

CALS DIVISION PADELFORD STREET ASSUNET, MASS. 02702

617-823-5133





TO AVOID FINANCE CHARGES PAY BY 12-24-81

SUN CHEMICAL COMPANY CC & FORBES IND PK MANSFIELD MASS ATTN MR HELFONT

ACCOUNT NO.

PAGE NO.

578040

1

INVOICE 02048 11-01-0434

DATE 11-20-81

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SCA DISPOSAL SERVICES OF NEW ENGLAND, INC. CALS DIVISION PADELFORD STREET

2702 ASSONET, MASS

617-823-5133

02048



TO AVOID FINANCE CHARGE PAY BY 1-21-82

SUN CHEMICAL COMPANY CC & FORBES IND PK MANSFIELD MASS ATTN MR HELFONT

ACCOUNT NO. 578040

PAGE NO. 1

12-01-0429

12-24-81

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PLEASE REMIT TO

SCA DISPOSAL SERVICES OF NEW ENGLAND, INC. CALS DIVISION PADELFORD STREET ASSONET, MASS. 02702

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617-823-5133

TO AVOID FINANCE CHARGE PYNT MUST REACH US BY 2-17-82

ACCOUNT NO. 578040

PAGE NO.

SUN CHEMICAL COMPANY CC & FORBES IND PK MANSFIELD MASS ATTN MR HELFONT

02048

INVOICE 1-01-0425

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PLEASE DETACH HERE AND RETURN ENTIRE BOTTOM PORTION

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101 CALS DIVISION

TOT LEALS DIVISION

578040 SUN CHEMICAL COMPANY

578040 SUN CHEMICAL COMPANY

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PLEASE REMIT TO

SCA DIEPO ERTICES OF NEW ENGLAND, INC. Ŀ

CALS DIV S ON

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• Q27-13 ·

617-823-5133

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MAE PYMT MUST REACH US BY 3-17-82

SUN CHEMI AL CC E F REES L'D 🗰

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ACCOUNT NO.

578040

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02048

INVOICE 2-01-0421

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578040 SUN CHEMICAL COMPANY

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SCA LISPUSAL SERVICES OF NEW ENGLAND, INC. CALS DIVISION

PADELFORD STREET ASSONET. MASS. 02702

617-823-5133



TO AVOID FINANCE CHG. PYMT MUST REACH US BY 4-22-82

ACCOUNT NO. 578040

SUN CHEMICAL COMPANY CC & FORBES IND PK MANSFIELD MASS

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INVOICE 3-01-0419

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YOUR CHECK NUMBER:

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617-823-5133



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Attachment H

23-62-790507

CAL'S ENTERPRISES

PADELFORD STREET · ASSONET, MASS. 02702 TELEPHONE 617-823-5133



DIVISION OF SCA DISPOSAL SERVICES OF NEW ENGLAND, INC.

May 7, 1979

Mr. Helfont Sun Chemical Company Cabot, Cabot & Forbes Industrial Park Mansfield, Mass. 02048

Dear Mr. Helfont:

We have received notice that effective July 1, 1979, the Town of Mansfield will no longer accept rubbish from commercial and industrial accounts at their landfill.

We want to make you aware of the fact that Cal's Enterprises can dispose of your rubbish at a private sanitary landfill at a cost of \$2.65 per yard. This charge would be back charged to you on your invoice for rental and hauling.

If you have any questions, please contact me.

11.

Very truly yours,

Richard L. Ford District Manager

RLF/pjd

SITE: Peterson Puritan BREAK: 11.9 OTHER: OUZ

Attachment I

23- px-82 d714

SCA SERVICES

CAL'S ENTERPRISES

PADELFORD STREET - ASSONET, MASS. 02702 TELEPHONE 617-823-5133

DIVISION OF SCA DISPOSAL SERVICES OF NEW ENGLAND, INC.

July 14, 1982

Sun Chemical Company CC & Forbes Ind. Park Mansfield, Mass. 02048 Attn: Mr. Helfont

Dear Customer:

I would like to take this opportunity to introduce myself. My name is Bill Sullivan. I am the new district manager of SCA Services, Inc., Cal's Division, Padelford St., Berkley, Mass.

SCA Services is a Boston based corporation, with home offices at 60 State Street, Boston, Mass.

We at SCA have been servicing you for the past 10 years and would like to insure all our customers that our change in management will not adversely affect our relationship with any of our valued customers.

I will avail myself to any customer during my working hours 6 a.m. - 6 p.m. Monday through Friday. Please feel free to call me for any reason. You are a valued customer to SCA Services and as their representative I am here to serve you!

Sincerely,

Bill Sullivan

BS/slb

CAL'S ENTERPRISES

PADELFORD STREET · ASSONET, MASS. 02702 TELEPHONE 617-823-5133



DIVISION OF SCA DISPOSAL SERVICES OF NEW ENGLAND, INC.

23 px - 820000

NOTICE

Dear Customer:

Please note that enclosed with your monthly invoice is an envelope for your convenience when mailing your check. We also have a new remit-to-address.

It would be greatly appreciated if in the future you enclose the top of your bill (the stub part with the new remit-to-address right on it) with your check in the envelope provided.

Very truly yours,

Sherri L. Bumpus

Accounts Receivable Dept.

herre & Burgowo

SCA SERVICES



SERVICE

	WASIE REMUVAL &	DISPUSAL AGREEMENT	_
SCA	DIVISION SCA of New England, Cal's Di ADDRESS P.O. Box 122, Assonet, MA 0		□CHANCE
SERVICES	PHONE (617) 361-0753	ACCOUNT No. 578040-H	□TEMP.
CUST	Sun Chemical Company	BILL TO	
SERVICE ADDRESS	320 Forbes Blvd.	BILLING ADDRESS	
CITY STATE ZIP	Mansfield, MA 02048	CITY STATE ZIP	

THIS AGREEMENT IS FOR A TERM OF ONE YEAR, BEGINNING WITH THE DATE SERVICE TO COMMENCE, UNLESS OTHERWISE STATED UNDER, "SPECIAL TERMS".

PAYMENT CONTACT

PHONE # _

CONTAINER SPECIFICATIONS									SCHEDULE OF CHARGES				
QUAN-	CAPACITY		TYP	E OF CO	NTAIN	R	- · · · · · · · · · · · · · · · · · · ·	A.	FRONT END, REAR END, SIDE LOAD, OTHER				
TITY	(CUBIC YDS)	Open	Closed	losed Front		Other	Lugger		1. SERVICE CHARGE PER(Day, Week, Mos.)	\$			
1	42 yd		X						2. EXTRA PICK-UP CHARGE	\$			
		<u> </u>							3. EQPT. CHARGES(Casters, Locks)	\$			
		דת	HER EQ	HIDMENT	•			В.	ROLL-OFF, LUGGERS, OTHER 1. SERVICE CHARGE PER LOAD	\$ 48.00			
									A) HAULING \$50.00 B) DISPOSAL \$111.30 2.65 yd 2. DEL: OF REMOVAL CHARGE	\$ 8.25			
	X Per	Week	OP FRE			<u>s</u>			16.5% Fuel Surcharge 3. MAINTENANCE CHARGE (Per Day, Week, Mos.)	\$			
	≤ On Ca	!!						C.	COMPACTOR CHARGES 1. INSTALLATION CHARGE	\$			
ATE S	ERVICE TO	COMM	ENCE						2. MAINTENANCE CHARGE PER MOS. For Mos.	\$			

NAME Mike Metcalf

339-3526

0617-0226

See Standard Terms and Conditions on the reverse side, which are incorporated
herein by reference and which are included as part of this Agreement. By signing
this Agreement, you acknowledge you have read and understand the terms and
conditions on the reverse side of this Agreement.

THANK YOU!

S triving for a C leaner America

CUSTOMER	Sun Chemical	Company	CONTRACTOR	SCA of New	England,	Cal's Division
AUTHORIZED SIGNA	TURE Michael Mel	ASER VELLOW COPY-ACCOUNTING	AUTHORIZED SIGN	ATURE		DATE
REV. 11/80	WHITE COPY-CUSTOMER	YELLOW COPY-ACCOUNTING	BLUE COPY-FILE	PINK COPY-DISPA	TCH/DELIVERY	

SITE: Release Ruston BREAK: 11.9 OTHER: OUZ

Attachment J

Suri Chemical Corporation



General Printing Ink Division

135 West Lake Street Northlake, Illinois 60164 (312) 562-0550 Telex: 72-1542

U.S. Environmental Protection Agency
EPA Region I
Permits Branch
P.O. Box 8748
Boston, MA 02114

October 25, 1982

Subject: RCRA Status Change

TO WHOM IT MAY CONCERN:

In August of 1980, Sun Chemical Corporation had filed under the Resource Conservation Recovery Act as a <u>Treatment</u>, Storage and <u>Disposal Facility</u> for the following plant location:

	Sun Chemical Corporation		
	General Printing Ink Division		
	320 Forbes Blvd.		
	Mansfield, MA 02048	-	
	(County) Bristol		
	EPA No. MAD-001-402-270		
١.	Has the above mentioned facility stored	Yes	No
	Hazardous Waste since the promulgation of		
	the Resource Conservation Recovery Act?		<u> </u>
2.	Has the above mentioned facility generated more than 2,200 pounds or 1,000 Kilos per month of Hazardous Waste?	<u>x</u>	
Γ'ne	erefore, we are requesting a Status Change to a		
	X Generator or Small Quantity G	enerator	•
	will dispose of our waste in the 90 DAY TIME LIMIT en accumulation reaches 2,200 pounds.	which	start s
You	ir expeditious response will be greatly appreciated.	Should v	rou

Sincerely,

have any further questions, please do not hesitate to contact my office.

Gary M. Andrzejowski

GPI Division Manager

Safety, Health & Environmental Contro

GMA:b

23 px 821135

Sun Std. 19

INTEROFFICE CORRESPONDENCE

Mansfield)

SUN CHEMICAL CORPORATION

TO

Di√isional Managers Regional Managers

FROM

Gary M. Andrzejewski

LOCATION

Branch Managers

LOCATION

Northlake

ANSWERING

DATE

November 25, 1982

SUBJECT

E.P.A. HAZARDOUS WASTE STATUS

In August of 1980, GPI filed with the respective State and Federal EPA offices as Treatment, Storage and Disposal Facilities of Hazardous Waste.

The only benefit to GPI in doing this was that it allowed our locations to store waste past the 90-day time limit. However, what we didn't realize was the overpowering paper work and financial responsibilities as a (T.S.D.F.).

In many cases we have branches that generate less than 2,200 pounds or $5\frac{1}{2}$ drums per month. Hence, those locations should be dropped from the system totally to a Small Quantity Generator.

Therefore, we are in the process of requesting a Status Change from the respective agencies for your branch. As soon as the Status Change is granted, you will no longer be required to fill out Annual Reports of Waste Shipments, or show financial requirements for Post Closure-Closure, have Waste Contingency Plans, Personnel Training, etc. Also, for those branches classified as Small Quantity Generators, waste manifest will not be required.

You will be required to dispose of your waste in the 90-day time limit.

The 90-day time limit starts when you have accumulated 2, 200 pounds. It does not start from the time you fill your first drum. Therefore, it is conceivable that a smaller branch could have six (6) months before it would be necessary to have the drums removed.

Should anyone require additional information or have any questions, please don't hesitate to contact my office.

GMA:bm

23-0X-84102A



UNITED STATES E. ONMENTAL PROTECTION AGENCY

REGION I

J. F. KENNEDY FEDEL (... SEDING, BOSTON, MASSACHUSETTS 02203

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

10 24.84

Mr. Gary M. Andrzejewski Division Manager Sun Chemical Corp. 320 Forbes Boulevard Mansfield, MA 02048

RE: EPA I.D. Number MAD001402270

Dear Mr. Andrzejewski:

This letter is in response to your letter of October 25, 1982 requesting the return of your Part A permit application. From the information provided, it appears that the facility does not require a RCRA permit under Section 3005 of the Act and 40 CFR Part 270.1(b) (formerly 40 CFR Part 122.21(c)). This section requires owners and/or operators of hazardous waste treatment, storage, and disposal facilities to obtain a permit for these activities. A facility that does not and will not treat, store, or dispose of hazardous waste does not require a RCRA permit.

EPA is returning your Part A permit application and has changed your company's status to a generator of hazardous waste. Under 40 CFR Part 270.1(c)(2) (formerly 40 CFR Part 122.21(a)(2)), a generator of hazardous waste is allowed to accumulate hazardous waste on site for up to 90 days in accordance with 40 CFR 262.34 without a RCRA permit. In addition, we will be deleting your transporter status since your company is not lisensed to transport hazardous waste in Massachusetts.

If EPA's interpretation is incorrect or if the facility is in fact one which is required to have a permit under Section 3005, a complete RCRA Part A permit application (EPA Forms 3510-1 and 3510-3) must be completed and resubmitted to this office by 12-13-14. If hazardous waste is treated, stored, or disposed of at the facility referenced above and the applicant fails or refuses to submit a complete Part A permit application by the date stated above, appropriate enforcement action may be taken.

If you have any questions, please contact Jacob Edwards at (617) 223-1923. All replies should be addressed to:

U.S Environmental Protection Agency State Waste Programs Branch JFK Federal Building, Room 409 Boston, MA 02203

Sincerely,

Llur Hulu Dennis A. Huebner, Chief

State Waste Programs Branch

cc: Nancy Wrenn DEQE, DHW

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GENERAL	\$EP	A
I. EPA I.D.	NUMBER TY HAME	MA
V. PACILI	Q ADDRESS	320 320 MAI

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program
(Read the "General Instructions" before starting.)

D001402270

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ĦĤ 02048

320 FORBES BLVD MAMSE LELD

02048

I. EPA I.D. NUMBER

FM 402

GENERAL INSTRUCTIONS

If a preprinted label has been provided, at it in the designated space. Review the infor ation carefully; if any of it is incorrect, or through it and enter the correct data in appropriate fill—in area below. Also, if any the preprinted data is absent (she area to left of the label space lists the informace that should appear), please provide it in proper fill—in srea(s) below. If the label complete and correct, you need not complete that I, III, V, and VI (except VI-B with the label complete in the label complete and correct.) must be completed regardless). Complete items if no label has been provided. Refer the instructions for detailed item described tions and for the legal authorizations un which this data is collected.

II. POLLUTANT CHARACTERISTICS

LOCATION

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity

	MARK X				\sqsubseteq	15.2	
SPECIFIC QUESTIONS	YES	YES NO ATTACH		SPECIFIC QUESTIONS	720	MAR	ATT
A. Is this facility a publicly owned treatment works		<u> </u>		B. Does or will this facility (either existing or proposed)			
which results in a discharge to waters of the U.S.?		x	1 1	include a concentrated animal feeding operation or		1)	
(FORM 2A)	į i	1 🐴 ,	1	aquatic animal production facility which results in a		X	
	19	12	10	discharge to waters of the U.S.? (FORM 2B)	1	10	\sqsubset
C. Is this a facility which currently results in discharges		Х		D. Is this a proposed facility (other than those described		Х	~
to waters of the U.S. other than those described in A or B above? (FORM 2C)	-			in A or B above) which will result in a discharge to	-		- -
A A B SEASE IFURM 4U	-	13	-	waters of the U.S.? (FORM 2D) F. Do you or will you inject at this facility industrial or	- 32-	29	+
E. Does or will this facility treat, store, or dispose of	-	{ }	ş h	F. Do you or will you inject at this facility industrial or municipal affluent below the lowermost stratum con-	1	١,	l
hazardous wastes? (FORM 3)	X	1	X	taining, within one quarter mile of the well bore,	1	X	1
		20	10	underground sources of drinking water? (FORM 4)	31	38	
G. Do you or will you inject at this facility any produced		1	 		 "		
water or other fluids which are brought to the surface	1 1	المهرا	()	H. Do you or will you inject at this facility fluids for spe- cial processes such as mining of sulfur by the Frasch	1	۱ ۱	İ
in connection with conventional oil or natural gas pro-		XX	1	process, solution mining of minerals, in situ combus-	1 1	X	1
duction, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid		ŧ ,	į l	tion of fossil fuel, or recovery of geothermal energy?	()	t i	1
hydrocarbons? (FORM 4)	130	30		(FORM 4)	27	28	+
f. Is this facility a proposed stationary source which is		 **	 1	J. Is this facility a proposed stationary source which is	T 1	1	
one of the 28 industrial categories listed in the in-	1 1	1	()	NOT one of the 28 industrial categories listed in the		()	1
structions and which will potentially emit 100 tons		х	į h	instructions and which will potentially emit 250 tons	1	x	1
per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an		1 .	1 1	per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment	1 1	1 ** 1	}
attainment area? (FORM 5)	40	-	42	area? (FORM 5)	100	44	
II. NAME OF FACILITY	منتو	ظ	استنها				
	1 1	-	1 1 1				
1 SKIP SUN CHEMICAL CO				PI DIVISION	1		
8 16 · 28 10	<u></u> .		<u> </u>		66		
V. FACILITY CONTACT	1		12.4				
A. NAME & TITLE (last, fi	ref, &	title	1	B. PHONE (area code & no.)			
	1 1	1		, , , , , , , , , , , , , , , , , , , 	1		
AITORO PETER - SA	F /	/ H	E A L	TH MGR 201 9 3 3 4 5 0 0	1		
1 10				45 46 - 48 49 - 51 57 - 55	1		_
. FACILITY MAILING ADDRESS							
A. STREET OR P.O.							
							
3 2 0 FORBES BLVD			·				
1 10		_		45]			
S. CITY OR TOWN				C.STATE D. ZIP CODE			
MANSFIELD		,	1 1 7 7	M A 0 2 0 4 8			
MANSFIELD	<u> </u>			M A [U 2 U 4 8]			
			أحسيها	771 177 77 1177 77 77 1			
/I. FACILITY LOCATION							
A. STREET, ROUTE NO. OR OTHER S							
SAME	· T	1					
I II				0617-0232			
S. COUNTY NAME							
RISTOL	· I		l				
C CITY OF TOWN				D. STATE E. ZIP CODE F. COUNTY CODE			
C. CITY OR TOWN	,		 	D.STATE E. ZIP CODE F. COUNTY CODE			
	. •	•					
							_

FORM	SEPA
BCBV	AND L

HAZARDOUS WASTE PERMIT APPLICATION

I. EP.	A I	.D.	N	JM	BE	R>	,					
FM	A	D	Ü	0	1	4	\mathcal{C}	2	2	7	0	r A

R	U Cra	1	1		(This in	Consolidated Perinits Pa formation is required under Sec	<u> </u>	FMAD001402270						
				AL USE ONLY										
API	PPR	101	/ED	(yr., mo., & day)	D		COMMENTS							
		23												
1			FOF	REVISED APP	LICATION									
evi	sed	app	plicat	the appropriate bo ion. If this is your per in Item I above.	x in A or B be first application	elow (mark one box only) to in on and you already know your	dicate whether this is the first facility's EPA I.D. Number, o	t application you are submitting for your facility or a ir if this is a revised application, enter your facility's						
Α.						ow and provide the appropriate one for definition of "existing"								
_	7				Complete ite	m below.)		2.NEW FACILITY (Complete item below.) FOR NEW FACILITIES. PROVIDE THE DATE						
8	-	7	\overline{I}	OP		FACILITIES, PROVIDE THE GAN OR THE DATE CONSTR the left)		VA. MO. DAY (Vr. mo., & day) OPERA TION BEGAN OR IS EXPECTED TO BEGIN						
B .	RE	VI	SED	APPLICATION	(place an "X"	below and complete Item I abo	טעפ)	,						
		_		SES - CODES A		CARACITIES		2. FACILITY HAS A RCRA PERMIT						
A. B.	PRO ente desc PRO 1.	OCI erin crib OCI AM UN	ESS (ng coo ne the ESS I IOUN IT O	CODE — Enter the cles. If more lines are process (including DESIGN CAPACITY — Enter the amount of MEASURE — For	ode from the e needed, entrits design capa — For each cunt. each amount	list of process codes below that ar the code(s) in the space provided on code entered in column A enter entered in column 8(1), enter	ided. If a process will be used the form (Item III-C). the capacity of the process. the code from the list of and	o be used at the facility. Ten lines are provided for it that is not included in the list of codes below, then measure codes below that describes the unit of						
	1	mea	asure	used. Only the uni	PRO- AP	that are listed below should be PROPRIATE UNITS OF EASURE FOR PROCESS	usea.	PRO- APPROPRIATE UNITS OF CESS MEASURE FOR PROCESS						
_			PF	OCESS	CODE	DESIGN CAPACITY	PROCESS	CODE DESIGN CAPACITY						
	ON.		_	(barrel, drum, etc.)		LONS OR LITERS	Treatment: TANK	TOI GALLONS PER DAY OR						
	AS		PILE		503 CUE	LONS OR LITERS NC YARDS OR NC METERS	ERS LITERS PER DAY							
				POUNDMENT		LONS OR LITERS	INCINERATOR	TOS TONS PER HOUR OR METRIC TONS PER HOUR: GALLONS PER HOUR OR						
01 10	ANI CE/	OF	PPL	VELL CATION OSAL IPOUNDMENT	D80 ACF wow dept HEC D81 ACF D82 GAL LIT	LONS OR LITERS RE-FEET (the volume that id cover one acre to a h of one foot) OR ITARE-METER RES OR HECTARES LONS PER DAY OR ERS PER DAY LONS OR LITERS	OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)							
					UNIT OF MEASURE		UNIT OF MEASURE	UNIT OF MEASURE						
_				ASURE	CODE	UNIT OF MEASURE	CODE	UNIT OF MEASURE CODE						
Li Ci G	TE UBI UBI ALI AMI	RS IC N IC N LOI PLE	YARI METE NS PI		L Y C U 'EM III (show	TONS PER HOUR . METRIC TONS PER GALLONS PER HOU LITERS PER HOUR	below): A facility has two s	ACRE-FEET						
				DUP	T/A	7////	$\overline{111111}$							
1 1						# / / / / /								
BER	_				13 14 1			POCESE DESIGN CARACITY						
NOME	A. CO	O	list	B. PROCES	S DESIGN C		CESS	1. AMOUNT 1. AMOUNT 2. UNIT OF MEA-OFFICIAL USE (cuter code)						
Z Z	A. C C (fr a	om	BS DE list (e)	B. PROCES	DESIGN C	2. UNIT OF MEA- SURE (enter	A. PRO- CESS CODE (from list)	2. UNIT OF MEA- OF MEA- SURE USE (enter ONLY						
(-)	A. CO	om ibot	DE list (re)	B. PROCES	DESIGN C	2. UNIT OF MEA. SURE (enter code) 17 21 22 32 43 50 50 50 50 50 50 50 50 50 5	CESS CODE (from list above)	1. AMOUNT 2. UNIT OF MEA- SURE (enter code)						
(-)	S T	0	DE list re)	B. PROCES: 1. A. (sp.) 60	DESIGN C	2. UNIT OF MEA-SURE (enter code) 27 21 22 22 23 25 25 25 25 25 25 25	CESS CODE (from list above)	1. AMOUNT 2. UNIT OF MEASURE (cater code) 1. 20 29 12						
\-1 \-2	S T	om ibot	DE list re)	B. PROCES	DESIGN C	2. UNIT OF MEA. SURE (enter code) 27	CESS CODE (from list above)	1. AMOUNT 2. UNIT OF MEASURE (cater code) 1. 20 29 12						
(-1) (-2)	S T	0	DE list re)	B. PROCES: 1. A. (sp.) 60	DESIGN C	2. UNIT OF MEA-SURE (enter code) 27 21 22 22 23 25 25 25 25 25 25 25	A. PRO- CESS CODE X (from list above) 16 - 18 19 5 6 7	1. AMOUNT 2. UNIT OF MEA- SURE (enter code)						
(-1) (-2)	S T	0	DE list re)	B. PROCES: 1. A. (sp.) 60	DESIGN C	2. UNIT OF MEA-SURE (enter code) 27 21 22 22 23 25 25 25 25 25 25 25	A. PROCESS CODE (from list above) 5 6 7	1. AMOUNT 2. UNIT OF MEASURE (confer code) 37 38 29 31						

CHUMPLO LIPON INCLINATE.		
VII SIC CODES (4 digit, in order of princity)		
A PINOT	and the logical	• BECOND
2893	[2]	
C. THIRD		D. FOURTH
c (specify)	c (specify)	
18 19 - 19	7	
VIII. OPERATOR INFORMATION	15 16 19	
	A. NAME	B. Is the name lists
		item VIII-A also owner?
8 SUN CHEMICAL CORP		XYES 🗆 N
15 16		., 44
C. STATUS OF OPERATOR (Enter the appropriate letter		D. PHONE (urva code & no.)
F = FEDERAL M = PUBLIC (other than federal or sta S = STATE O = OTHER (specify)	te) P (specify)	A 212 986 550 0
P = PRIVATE	55	15 10 - 10 10 - 21 22 - 24
E, STREET OR P.O. BOX		
	AN AM BLDG	
26	55	
F. CITY OR TOWN	G.STATE H. ZIP COD	
B NEW YORK	NY 1016	6 YES NO
		O YES MO
18 16	40 41 42 47 -	11
X. EXISTING ENVIRONMENTAL PERMITS		
A. NPDES (Discharges to Surface Water) D. PSD	(Air Emissions from Proposed Sources)	
9 N 9 P		
15 16 17 16 - 30 19 16 17	E. OTHER (specify)	
B. UIC (Underground Injection of Fluids)		ecify)
9 U 9	· , , , , , , , , , , , , , , , , , , ,	,,,
10 10 17 10 - 30 15 10 17 C. RCRA (Hazardous Wastes)	E. OTHER (specify)	
eri i i i i i i i i eri		ecify)
9 R 9		•
XI. MAP	10	
Attach to this application a topographic map of the area	a extending to at least one mile beyond o	roperty boundaries. The man must show
the outline of the facility, the location of each of its e		
treatment, storage, or disposal facilities, and each well	where it injects fluids underground. Incl	
water bodies in the map area. See instructions for precise	e requirements.	
XII. NATURE OF BUSINESS (provide a brief description)		
MANUFACTURE AND DISTRIB	UTION OF PRINTING INKS	
		0617 0024
		0617-0234
XIII. CERTIFICATION (see instructions)		
I certify under penalty of law that I have personally ex	amined and am familiar with the informa	tion submitted in this application and all
attachments and that, based on my inquiry of those application, I believe that the information is true, accurate	persons immediately responsible for obtaining and complete the aware that the	aining the information contained in the
faise information, including the possibility of fine and in		e are significant penantes for soundting
A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
Daniel J. Carlick		",
Vice President, Technical Mgr.	L'ann e color	E 11/11/80
COMMENTS FOR OFFICIAL USE ONLY		,,,,
c)		
10 10		35

EPA Form 3510-1 (6-80) REVERSE

Continued from the front

III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES COME TOWN FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

- IV. DESCRIPTION OF HAZARDOUS WASTES

 A. EPA HAZARDOUS WASTE NUMBER Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the character tics and/or the toxic contaminants of those hazardous wastes.
- B. ESTIMATED ANNUAL QUANTITY For each listed waste entered in column A estimate the quantity of that weste that will be handled on an annu basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be hand which possess that characteristic or contaminant.
- C. UNIT OF MEASURE For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropri codes are:

ENGLISH UNIT OF MEASURE CO	DDE.	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	. K
TONS	T	METRIC TONS	. M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking i account the appropriate density or specific gravity of the waste.

D. PROCESSES

VEI LOIL

1 ١

X

1. PROCESS CODES:

For listed hezardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Iten to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code/s/ from the list of process c contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that po that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes, if more are needed: (1) Enter the first three as described above; (2) Enter "000" in extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be describe more than one EPA Hazardous Waste Number shall be described on the form as follows:

- 1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total a quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- 2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste, in column D(2) on that line "included with above" and make no other entries on that line.
- 3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) — A facility will treat and dispose of an estimated 900 p per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated. 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

		A. EPA		T			C. UNIT			D. PROCESSES									
īž	HAZARD. WASTENO (enter code))	B. ESTIMATED ANNUAL QUANTITY OF WASTE		OF MEA- SURE (enter code)				1	. PROCE!		DES	;	2. PROCESS DESCRIPTION (if a code is not entered in $D(1)$)				
	K		5	7	1	900		P		T	0.	3	D 8 0	1	T				
X-2	D	0	1	2	?	400		1'		T	0.	3	DS0		—			0617-0235	
X-3	D	0	0)]	,	100		P		T	0.	3	D80	1	1				
X-4	D		1	2	?						7		777	7	1			included with above	

EPA Form 3510-3 (6-80)

PAGE 2 OF 5

CONTINUE (

XII 1 et

w M	A	D	0	0	14022701		/		V 2			DUP			7/A © D U P
IV. I	7				N OF HAZARDOUS WASTE	-		inu							
W .	H A	4. 1 4.Z.	AR	D.	B. ESTIMATED ANNUAL QUANTITY OF WASTE) S	UNIT	[.							D. PROCESSES
N N N	(e)	iter	co	de)		C	enter ode)	╡.	1 . 14		(er	SS COD		27 - 29	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1		0	8	6	60000		P		501	ľ	•			** ***	
2	D	0	0	1					, ,			;			INCLUDED WITH ABOVE
3	K	0	8	6	10000		ρ		01					· ·	
4	D	0	0	2					• •					· ·	INCLUDED WITH ABOVE
5	D	0	0	5					1 1		1				INCLUDED WITH ABOVE
6									- T - T						
7									7						
8									1 1		1	' '		' '	
9									1 1			<u>'</u>		' '	
10									1 I		•				
11									1 1		T			1 1	
12									1 1		•			T T	
13									T						
14									1		J			1 1	
15									7-7					1 1	
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25															001.
26	33			26	27		36		7 . 29	27	- 49	27 - 2	•	27 - 29	

EPA Form 3510-3 (6-80)

B. SIGNATURE

A. NAME (print or type)

EPA Form 3510-3 (6-80)

PAGE 4 OF 5 CONTINUE ON PAGE

DATE SIGNED



DEPARTMENT OF PUBLIC WORKS 3 -CX- 850103 Mansfield, Massachusetts 02048 Telephone: 339-4376 or 339-2082

January 3, 1986

NOTICE

TO ALL INDUSTRIAL USERS

OF THE MUNICIPAL SEWERAGE SYSTEM

INDUSTRIAL USER SURVEY

The Town of Mansfield has recently opened its new wastewater treatment facility. Nearly twenty-seven million dollars have been spent through federal, state and local funding in order to build a facility to handle the wastes generated by industrial, as well as, domestic users. In order to protect the environment, the facility has a high degree of sophistication built in. Accordingly, strict discharge parameters have been placed on the facility.

In order to insure efficient and economical plant performance, it is necessary for the staff at the facility to have a better understanding of the characteristics of the wastewater entering the plant. To accomplish this, the Town of Mansfield requests that the enclosed Industrial User Survey be completed by your firm and returned as soon as possible (no later than March 31, 1986).

Recause we understand that many businesses are not aware of the kinds and amounts of pollutants which may be in their wastewater discharge, and we also are aware that you may not be knowledgeable in correct sampling procedures, we will be happy to assist you in completing the survey. If you have any questions, please call Jerry St. Hilaire or me at the Mansfield Wastewater Treeatment Facility (285-5746) between the hours of 8:00 a.m. and 4:00 p.m. Monday through Friday.

William H. Handy

Operations Manager

Mansfield Wastewater Treatment Facility

0617-0238

INDUSTRIAL USER SURVEY

for

TOWN OF MANSFIELD, MASSACHUSETTS

			INFORMATION		,	
1.	Compan	y Name:_	GENERAL PRIN	TING INK CO.		
	(Paren	it Company	Name, if appli	cable): SUN CHE	MICAL CORP.	_
2.	Company	Address:	320 FORBE	S BLVD.		_
	Mailing	Address:	MANSFIELD	M7 02040		
3.	Te lepho	ne Number	339-3526			-
4.	Person(s) to con	itact concerning	information provide	ed herein:	
	Name	Michae	el J. Metcalf	Name		_
	Title _	Plant	Manager	Title		_
					Ext.	
Sed	ction B.	PRODUCT	or SERVICE INFO	RMATION		
1.			•	manufacturing or ser al printing inks.	rvice activity at this locati	lon
				T		_
						_
					······································	_
2.	Princip	al Produc	ts or Services:	commercial print	ing inks	_
3.				: (include all produ and/or equipment)	acts or chemicals used in	
	propi	rietary	raw materials	3		
						_
						_

se	tion C. PLANT OPERATIONAL DATA	
1	Shift Information: a. number of shifts per work day 1 7 am to _?p	m
	b. number of work days per week _5	
	c. average number of employees per shift 24 2nd 3rd	
	d. total number of employees 24	
2.	List past twelve months municipal water usage from billing (in cubic feet):	
	a. 6 months ending $6/30/85$ 69500	
	b. 6 months ending 12/31/84 <u>60000</u>	
	c. volume from other sources (wells, etc.) None gallons per da	ıy
3.	List water consumption within plant (specify units/day):	
	a. Process (production, cleaning, etc.) 10 NE D. Non-Process (cooling, boiler feed, etc.) 3 cubic ft/day C. Sanitary (toilets, washrooms, etc.) 500 cubic ft/day	
	. Sanitary (toilets, washrooms, etc.)	
	1. Other (specify source) Nune	
4.	ist average volume of discharge to:	
	. municipal sewer system Nune gal/day	
	storm drain <u>\$3700</u> gal/day	
	septic system 500 gal/day	
	other NDNE gal/day Explain:	
5.	lant wastewater discharge type: (check applicable type)	
) Batch wastewater discharge	
	. number of discharges per (day, week, month)	
	america inlima par discharge (enecify units)	

(Continuous wastewater discharge

a. average flow rate 3,785 gal/day

b. maximum flow rate 3785 gal/day

Section D. PRETREATMENT

si	wastewater pretreatment currently provided? Pretreatment includes both mple devices such as grease traps as well as more complex processes such heavy metals removal.
(_X) No () Yes (complete the following)
Is	pretreatment a batch or a continuous operation?
If	batch, describe the frequency, volume and duration of the discharge.
 2. Des	scribe in general the wastewater pretreatment process, including the maximum
des	sign volume which can be treated.
	e any changes in the pretreatment system anticipated within the next two years) No () Yes (describe the changes)
<u>No</u>	te: city water is used for non-contact cooling. Also small
	ount of water for our steam boiler, approx: 100 gal/day.
	t the by-products of the system (sludge, skimmings, etc.) and the method disposal.
	None, Note: Water discharge is not considered waste
	since it is non-contact cooling water.
	by-products are disposed of by a contractor, give name, address, and tele- ne number.
	None
	•

Section E. WASTEWATER CHARACTERIZATION (submit laboratory analysis on wastewater constituents known or suspected to be in your plant effluent Only)

Average

Daily Parameter Value Flow gal/day Biochemical Oxygen Demand mg/1Chemical Oxygen Demand mg/1Suspended Solids mg/1pН std. units ۰F Temperature Cadmium mg/1Chromium, Total mq/1Cyanide, Total mg/1Copper mg/1Lead mg/lPhenol mg/1Silver mg/1Zinc mg/1Aluminum mg/1Ammonia-Nitrogen mg/lTotal Phosphorous mg/1Volatile Organic Compounds - specify (e.g. acetone, trichloroethane, trichloroethylene) Was this a grab or composite sample? () grab () composite over hours

I have personally examined and am familiar with the information submitted in this document and attachments. Based on my inquiry of those individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate and complete.

Signature of Plant Official Silvat | Name 2 2/11/46

Date

INTEROFFICE CORRESPONDENCE

SUN CHEMICAL CORPORATION

TO

Mike Metcalf

FROM

LOCATION

Mansfield

LOCATION

Northlake

ANSWERING

DATE

August 9, 1985

SUBJECT

General National Pollutant Discharge Elimination System (NPDES) Permit

Mike.

Enclosed please find your NPDS Permit for the Mansfield location.

Please review the requirements of the permit, its conditions, and then contact my office so we can review the requirements together. At that time we can go over any questions you might have.

GMA/bm

Att'd. (original)

cc: D.Condon

W. Hamburger

D.Bunin

S.Kovalsky

R. Iuliucci (Att'd.)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

J. F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 6, 1985 Mr. Gary M. Andrzejewski GPI Division Manager Sun Chemical Corporation 135 West Lake Street Northlake, Il 60164

Re: General NPDES Permit No: MAG250244

Facility Name: General Printing, Inc.

Division of Sun Chemical

Address: 320 Forbes Blvd.
Mansfield, MA
Receiving Water: Hodges Creek

Dear Mr. Andrzejewski:

In response to your request of April 18, 1985 enclosed is a copy of the General National Pollutant Discharge Elimination System (NPDES) Permit for the discharge of noncontact cooling water in the State of Massachusetts. Your discharge is covered under this General Permit effective as of the date of this letter. This General Permit is regulated under 40 C.F.R. §122.28, 48 Fed. Reg. 14164-14165 (April 1, 1983).

Please be advised that pursuant to Commonwealth of Massachusetts regulations, 314 CMR 3.03, a permit to discharge non-contact cooling water to surface waters of the Commonwealth is required. Contact the Department of Environmental Quality Engineering, Division of Water Pollution Control, Permit Section, One Winter Street, 7th Floor, Boston, MA 02108, telephone (617) 292-5673 for further information on state permit requirements and application filing procedures.

Your General Permit Number is indicated above and should be referenced on all correspondence. Should you have any questions relative to your coverage under this program, don't hesitate to contact Nanci Siciliano of my staff. She may be reached at 617/223-3940.

Sincerely,

Clyd 7. Shufflt for Edward K. McSweeney, Chief

Compliance Branch

Enclosure

cc: State Water Pollution Control Agency w/o encl.

0617-0243

INSTRUCTIONS FOR COMPLETING DISCHARGE HONITORING REPORT

Read these instructions before completing form:

After reading and understanding instructions and forms, please return acknowledgement card.

Sampling and testing procedures should follow those published in 40 C.F.R. 136. These are basically <u>Standard Methods</u> or EPA procedures.

Forms should be completed in triplicate for each discharge with copy each for EPA, state and your records. If the state requires a more frequent submittal than EPA, collate EPA's copies and send as required.

Enter permittee name and facility address, PERMIT MUMBER, discharge number and reporting period. (A separate page is required for each discharge.)

For each parameter monitored during the reporting period, (either as a requirement of the permit or for own information) summarise the data as required in the permit and complete the form as follows:

- 1. Parameter column list parameter name.
- Enter minimum, average and maximum values for quentity and/or concentration under appropriate column headings.
 - a. If frequency is once per month or less, enter the one value under average and leave minimum and maximum blank.
 - b. lb/day (pounds per day) equal₈ flow (in million gallons per day) times concentration (in mg/l) times 8.34.
 Rxample: 2.5 MGD x '30 mg/l BOD x 8.34 = 625.5 lb BOD/day
 - c. MGD equals gallons per minute times 1440.
- 3. Enter units as appropriate.

MGD - million gallons per day
1b/day - pounds per day
mg/l - milligrams per liter
SU - standard units for pR
*F - degrees fahrenheit
kg/day - kilograms/day = 1b/day
2.2

(other units may be used as necessary)

- 4. Specify the number of samples that exceeded the maximum (and/or minimum, as appropriate) in the columns "NO. ZX." If none, enter "O". If there are any violations, send a latter of explanation.
- 5. Specify frequency of analysis as number of analyses/ number days (3/7 is three analyses per every 7 days, 1/7 is weekly, 1/30 is once a month, 30/30 is daily, 1/90 is quarterly 6 1/180 is semiannually) If continuous, enter "CONT"
- 6. Specify sample type ("grab" or " hr. composite")
 If frequency was continuous enter "NA."

Indicate person or laboratory performing analytical work under Remerks.

Print name and title of person responsible for monitoring and reporting and sign and date the form.

Mail state copy to appropriate state agency and EFA copy to .

Environmental Protection Agency ' Permits Branch Box 6127 Boston, NA 02114

0617-0245

When supply of forms will be exhausted within 2 months, send reorder form or reproduce forms yourself.



135 West Lake Street Northlake, Illinois 60164 (312) 562-0550 Telex: 72-1542

April 18, 1985

Environmental Protection Agency Compliance Branch - Room 2109 John F. Kennedy Federal Building Boston, Mass. 02203

Attention: Ms. Nancy Siciliano

Dear Nancy,

This letter serves as Sun Chemical Corporation, General Printing Ink Divisions request for coverage under the Massachusetts General Permit for Discharge of Non-contact Cooling Water from our facility located at 320 Forbes Blvd., Mansfield, Mass.

The discharge is received by Hodges Creek which is Class B and discharged into the Taunton River Basin.

In addition for your records, Sun Chemical Corporation, which is located at 222 Bridge Plaza South, Ft.Lee, N.J., is the owner of our Mansfield Branch, responsible for the discharge, and the Mansfield Branch is operated by General Printing Ink Division of Sun Chemical at 135 West Lake Street, Northlake, Illinois. The effluent discharge total is approximately 3,360 gallons per day.

In conclusion, should you have any questions or require additional information, please don't hesitate in contacting my office.

Say Brandyyuwke Gary M. Andrzejewski

GPI Division Manager

Safety, Health & Environmental

Control

GMA/bm

cc: D. Condon The wild W. Hamburger

J. Capron

S.Kovalsky

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act, as amended, (33 U.S.C. §61251 et seq.; the "CWA"), operators of faciliti located in Massachusetts, which discharge solely non-contact cooling water, as defined in Part II, at a rate of one million gallons per day or less to Class B and C waters as designated in the Massachusett Water Quality Standards, 314 CMR 4.00 et seq.; are authorized to discharge to all Class B and C waters in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on the date of the signature below.

This permit and the authorization to discharge expire at midnight, five years from date of issuance.

This permit consists of 6 pages in Part I including effluent limitations, monitoring requirements, etc. and 15 pages in Part II includin General Conditions and Definitions.

Operators of facilities within the general permit area who fail to notify the Director of their intent to be covered by this general permit and receive written notification of permit coverage, or those who are denied coverage by the Director are not authorized under this general permit to discharge from those facilities to the receiving waters or areas named.

Signed this

lay of April

Director, Water Management Division Environmental Protection Agency

Boston, Massachusetts

REGION I

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from each outfall of non-contact cooling water to a drainage basin classified as a warm or cold water fishery as designated below. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Charac	teristic	Dischar	ge Limitations	Monitoring Requirements				
	kg/day (1bs/day)		Other Units (Specify)		Measurement	Sample		
	Avg. Monthly	Max. Daily	Avg. Monthly	Max. Daily	Frequency	Туре		
Flow	-	-	-	1.0 MGD	quarterly	daily average		
Temperature	(warm water f (cold water f	-		83°F(28.3°C) 68°F(20°C)	quarterly	4 grabs, reporting max., and avg.		
рН		(see Pa		quarterly	4 grabs, reporting range			

The discharge shall not cause or contribute to a rise in the temperature of the receiving waters resulting from artificial origin of greater than $4^{\circ}F(2.2C)$.

This permit does not allow for the addition of any biocide or chemical for any purpose to the effluent.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the point of discharge.

The effluent limitations are based on the state water quality standards and are certified by the State.

*The designation of cold or warm water fisheries shall be that provided in the Massachusetts Water Quality Standards, 314 CMR 4.05(4) and 4.05(5), Tables 1-27.

0617-0248

a. The pH of the effluent shall not be less than nor greater than the range given for the receiving water classifications, unless these values are exceeded due to natural causes.

Classification	Range					
В	6.5 - 8.0					
С	6.5 - 9.0					

B. MONITORING AND REPORTING

1. Peporting

Monitoring results obtained during the previous 6 months shall be summarized for each quarter and reported on separate Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the month following the completed reporting period. The reports are due on the 15th day of January and July. The first report may include less than the 6 months information.

Signed copies of these, and all other reports required herein shall be submitted to the Director and the State at the following addresses:

Permit Compliance Section [WR/PC-2103]

Compliance Branch

Water Management Division

Environmental Protection Agency

JFK Federal Building

Boston, MA 02203

The State Agency to receive the copy is the appropriate Regional Office:

Massachusetts Division of Water Pollution Control
Western Regional Office
436 Dwight Street
Springfield, MA 01103

Massachusetts Division of Water Pollution Control Southeastern Regional Office Lakeville Hospital Lakeville, MA 02346

Massachusetts Division of Water Pollution Control
Eastern Regional Office
323 New Boston Street
Woburn, MA 01801

Massachusetts Division of Water Pollution Control
Central Regional Office
75 Grove Street
Worcester, Massachusetts 01605

Signed copies of all other notifications and reports required by this permit shall be submitted to the State at:

Massachusetts Division of Water Pollution Control
Permit Section - 7th Floor
1 Winter Street
Boston, MA 02110

C. ADDITIONAL GENERAL PERMIT CONDITIONS.

1. Notification Requirements

- a. Written notification of commencement of operations, including the legal name and address of the operator and the locations, number and type of facilities and/or operations covered shall be submitted:
 - (1) For existing discharges as soon as possible after the effective date of this permit, by operators whose facilities and/or operations are discharging into the general permit area on the effective date of the permit; or
 - (2) For new discharges 30 days prior to commencement of the discharge by operators whose facilities and/or operations commence discharge subsequent to the effective date of this permit.
- h. Operators of facilities and/or operations within the general permit area who fail to notify the Director of their intent to be covered by this general permit and obtain written authorization of coverage are not authoriunder this general permit to discharge from those faciliinto the named receiving waters.

2. Termination of Operations

Operators of facilities and/or operations authorized under this permit shall notify the Director upon the termination c discharges.

3. Renotification

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Upon reissuance of a new general permit, the permittee is required to notify the Director of his intent to be covered by the new general permit.

4. When the Director May Require Application for an Individual NPDES Permit.

- a. The Director may require any person authorized by this permit to apply for and obtain an individual NPDES permit. Any interested person may petition the Director to take such action. Instances where an individual permit may be required include the following:
 - (1) The discharge(s) is a significant contributor of pollution;
 - (2) The discharger is not in compliance with the conditions of this permit;
 - (3) A change has occurred in the availability of the demonstrated technology of practices for the control or abatement of pollutants applicable to the point source:
 - (4) Effluent limitation guidelines are promulgated for point sources covered by this permit;
 - (5) A Water Quality Management Plan containing requirements applicable to such point source is approved; or
 - (6) The point source(s) covered by this permit no longer:
 - (a) Involves the same or substantially similar types of operations;
 - (b) Discharges the same types of wastes;
 - (c) Requires the same effluent limitations or operat conditions;
 - (d) Requires the same or similar monitoring; and
 - (e) In the opinion of the Director, is more appropriately controlled under a general permit than under an individual NPDES permit.
- b. The Director may require an individual permit only if the permittee authorized by the general permit has been notified in writing that an individual permit is required and has been given a brief explanation of the reasons for this decision.

5. When an Individual NPDES Permit may be Requested.

- a. Any operator may request to be excluded from the coverage of this general permit by applying for an individual permit.
- b. When an individual NPDES permit is issued to an operator otherwise subject to this general permit, the applicability of this permit to that owner or operator is automatically terminated on the effective date of the individual permit.

GENERAL CONDITIONS GENERAL PERMITS

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DEFINITIONS

GENERAL REQUIREMENTS

(a) Duty to comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

- (1) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
- (2) The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA is subject to a civil penalty not to exceed \$10,000 per day of such violation. any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307, or 308 of the Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than 1 year, or both.

(b) Reopener Clause .

The Regional Administrator reserves the right to make appropriate revisions to this permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the CWA in order to bring all discharges into compliance with the CWA, limited to circumstances enumerated in 40 CFR §§122.62, .63, and .64.

(c) Need to Halt or Reduce Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(d) Duty to mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(e) Proper operation and maintenance.

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

(f) Permit actions

This permit may be modified, revoked and reissued, or terminated for cause, including but not limited to: (1) Violation of any terms or conditions of this permit; (2) Obtaining this permit by misrepresentation or failure to disclose all relevant facts; or (3) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(g) Property rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

(h) Duty to provide information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

(i) Inspection and entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- (1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

- (3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- (4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.

(j) Monitoring and records

- (1) Samples and measurements taken for the purpose of monitoring shall be representative of the volume and nature of the discharge over the sampling and reporting period.
- (2) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings from continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.
- (3) Records of monitoring information shall include:
 - (i) The date, exact place, and time of sampling or measurements;
 - (ii) The individual(s) who performed the sampling or measurements;
 - (iii) The date(s) analyses were performed;
 - (iv) The individual(s) who performed the analyses;
 - (v) The analytical techniques or methods used; and
 - (vi) The results of such analyses.
- (4) Monitoring must be conducted according to test procedures approved under 40 C.F.R. Part 136, unless other test procedures have been specified in this permit.
- (5) The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than 6 months or by both.
- (6) Monitoring results must be reported on a Discharge Monitoring Report (DMR).

(7) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 C.F.R. Part 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

(k) Signatory requirement

All applications, reports, or information submitted to the Director shall be signed and certified in accordance with 40 C.F.R. §122.22. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 6 months, or by both.

(1) Reporting requirements

- (1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.
- (2) Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (3) Transfers. This permit is not transferable to any person except after written notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the CWA.
- (4) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (5) Twenty-four hour reporting. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances or the next working day. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The following information must be reported within 24 hours (24-hour reporting) or the next working day:

- (i) Any unanticipated bypass which causes a violation of any effluent limitation in the permit; or
- (ii) Any upset which causes a violation of any effluent limitation in the permit; or
- (iii) Any violation of a maximum daily discharge limitation for any of the pollutants specifically listed by the Director in the permit.

The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours or the next working day.

- (6) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (1), (2), and (5), of this section, at the time monitoring reports are submitted. The reports shall contain the information required in paragraph (1)(5) of this section.
- (7) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such tacts or information.

(m) Bypass

(1) Definitions.

- (i) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
- (ii) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(2) Prohibition of bypass.

- (i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless all the following conditions occur:
 - (A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

- (B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occured during normal periods of equipment downtime or preventive maintenance; and
- (C) The permittee submitted notices as required under paragraph (m)(3) of this section.
- (ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (m)(2)(i) of this section.
- (iii) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraph (m)(3) of this section.

(3) Notice

- (i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
- (ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (1)(5) of this section (24-hour notice).

(n) Upset

- (1) Definition. "Upset" means an exceptional incident in which there is unintentional and temporary non-compliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- (2) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph (n)(3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

- (3) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (i) An upset occurred and that the permittee can identify the specific cause(s) of the upset;
 - (ii) The permitted facility was at the time being properly operated;
 - (iii) The permittee submitted notice of the upset as required in paragraph (1)(5) of this section (24-hour notice); and
 - (iv) The permittee complied with any remedial measures required under (d) above.
- (4) <u>Burden of proof</u>. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

(o) Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application for an individual permit or, at least 180 days prior to commencement of such discharges if such changes will not violate the effluent limitations specified in this permit, by notice, in writing, to the Director of such changes. After a review of the information contained in the written notice and in accordance with Part I-C 4 of this permit, the Director may require a permittee to apply for an individual NPDES permit.

Until a new NPDES permit is effective, any new or increased discharge in excess or permit limits or not specifically authorized by the permit constitutes a violation.

(p) Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner consistent with applicable Federal and State laws and regulations including, but not limited to the CWA and the Federal Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq., and regulations promulgated thereunder.

(q) Power Failures

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall:

halt, reduce or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

(r) Availability of Reports

Except for data determined to be confidential under Paragraph X below, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Regional Administrator. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA.

(s) Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the CWA.

(t) State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the CWA.

(u) Other Laws

The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, nor does it relieve the permittee of its obligation to comply with any other applicable Federal, State, and local laws and regulations.

(v) Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

DEFINITIONS

 For purposes of this permit, the following definitions shall apply.

Administrator means the Administrator of the United States Environmental Protection Agency, or an authorized representative.

Applicable standards and limitations means all State, interstate, and Federal standards and limitations to which a "discharge" or a related activity is subject to, including water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," and pretreatment standards under sections 301, 302, 303, 304, 306, 307, 308, 403, and 405 of CWA.

Average - The arithmetic mean of values taken at the frequency required for each parameter over the specified period.

Average monthly discharge limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average weekly discharge limitation means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best management practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Best Professional Judgement (BPJ) means a case-by-case determination of best practicable treatment (BPT), best available treatment (BAT) or other appropriate standard based on an evaluation of the available technology to achieve a particular pollutant reduction.

Composite Sample - A sample consisting of a minimum of eight grab samples collected at equal intervals during a 24-hour period (or lesser period as specified in the section on Monitoring and Reporting) and combined proportional to flow, or a sample continuously collected proportionally to flow over that same time period.

CWA means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended by Pub. L. 95-217 and Pub. L. 95-576; 33 U.S.C. §\$1251 et seq.

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hours period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutal discharged over the day. For pollutants with limitations expressed in other units of measurements, the daily discharge is calculated as the average measurement of the pollutant over the day.

Director means Director, Water Management Division, EPA, Region I.

Discharge Monitoring Report Form ("DMR") means the EPA standard national form, including any subsequent additions, revisions, or modifications, for the reporting of self-monitoring results by permittees. DMRs must be used by "approved States" as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

Discharge of a pollutant means:

- (a) Any addition of any "pollutant" or combination of pollutant to "waters of the United States" from any "point source," or
- (b) Any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other tloating craft which is being used as a means of transportation.

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channelled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances leading into privately owned treatment works.

This term does not include an addition of pollutants by any "indirect discharger" as defined in 40 C.F.R. §122.2.

Effluent limitation means any restriction imposed by the Director on quantities, discharge rates, and concentrations of "pollutants" which are "discharged" from "point sources" into "waters of the United States," the waters of the "contiguous zone," or the ocean.

Effluent limitations guidelines means a regulation published by the Administrator under Section 304(b) of CWA to adopt or revise "effluent limitations."

EPA means the United States "Environmental Protection Agency.

Grab Sample - An individual sample collected in a period of less than 15 minutes.

Hazardous Substance means any substance designated under 40 C.F.R. Part 116 pursuant to Section 311 of CWA.

Maximum daily discharge limitation (NPDES) means the highest allowable "daily discharge."

National Pollutant Discharge Elimination System means the national program for issuing, modifying, revoking and reissuir terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of CWA. The term includes an "approved program."

Non-Contact Cooling Water means, any water used to reduce temperature which does not come into direct contact with any raw material, intermediate product, waste product (other than heat); or finished product. Groundwater, which contains toxic or hazardous pollutants, shall be excluded from use under this definition. Steam electric generating plants, as a category, are excluded under this definition.

NPDES means "National Pollutant Discharge Elimination System."

Owner or operator means the owner or operator of any "facility or activity" subject to regulation under the NPDES programs.

Permit means an authorization, license, or equivalent control document issued by EPA or an "approved State."

Point source means any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel, or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

pollutant means dredged spoil, solid waste, incinerator residue filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. §§2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

THE PROPERTY OF THE PARTY OF TH

(b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surfact water resources.

<u>Process wastewater</u> means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Regional Administrator means the Regional Administrator, EPA, Region I, Boston, Massachusetts.

State means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands.

Toxic Pollutant means any pollutant listed as toxic in Appendix D of 40 C.F.R. Part 122, under Section 307(a)(1) of CWA.

Uncontaminated Storm Water means storm water runoff uncontaminated by contact with process wastes, raw materials, toxic pollutants, hazardous pollutants or oil and grease, except in trace amounts due to normal traffic and parking facilities.

Waters of the United States means:

- (a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (b) All interstate waters, including interstate "wetlands."
- (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
 - (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes;
 - (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - (3) Which are used or could be used for industrial purposes by industries in interstate commerce;

- (d) All impoundments of waters otherwise defined as waters of the United States under this definition;
- (e) Tributaries of waters identified in paragraphs.(a) (d)
 of this definition;
- (f) The territorial sea; and
- (g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) - (f) of this definition.

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Sample Taken

Somple Taken

Dotte | Time | Place | Took Sharker | Dotte is) | who I technique results method

The following abbreviations, when used, are defined below.

cu. M/day or M^3/day

cubic meters per day

mg/1

milligrams per liter

ug/l

micrograms per liter

lbs/day

pounds per day

kg/day

kilograms per day

Temp. °C

temperature in degrees Centigrade

Temp. °F

temperature in degrees Fahrenheit

pН

a measure of the hydrogen ion concentration

CFS

cubic feet per second

MGD

million gallons per day

Oil & Grease

Freon extractable material

m1/1

milliliter(s) per liter

- 1. Are we draining to a warm or cold water fishery? See page 276 ian him
- 2. Does this cover mill water and dike?
- 3. Dite discherge may have "solids"

 and wintste fort of account (sample tolker)
- 4. Is the a quality signit see pgs 30,6 6.
- 5. We need written notification of commencent is questions
- 6. Must heep marks i years
- 7. What is 10 c in the Os of recording
 - Explante con.

NATIONAL POLLUTART DISCHARGE ELIMINATION SYSTEM BISCHARGE MONITORING REPORT

Pres Approved
CRES NO. 180-00071

Facility or discharge location

Here General Printing Jak Co.

Nome Division of Sun Chemisal Corp
Street 32 . Forbes Blod,

City mansfield

State/Zip code mass. 02.48

see INSTRUCTIONS on back

Remarks

Telephone number (including area code) 6(7-339-352)

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